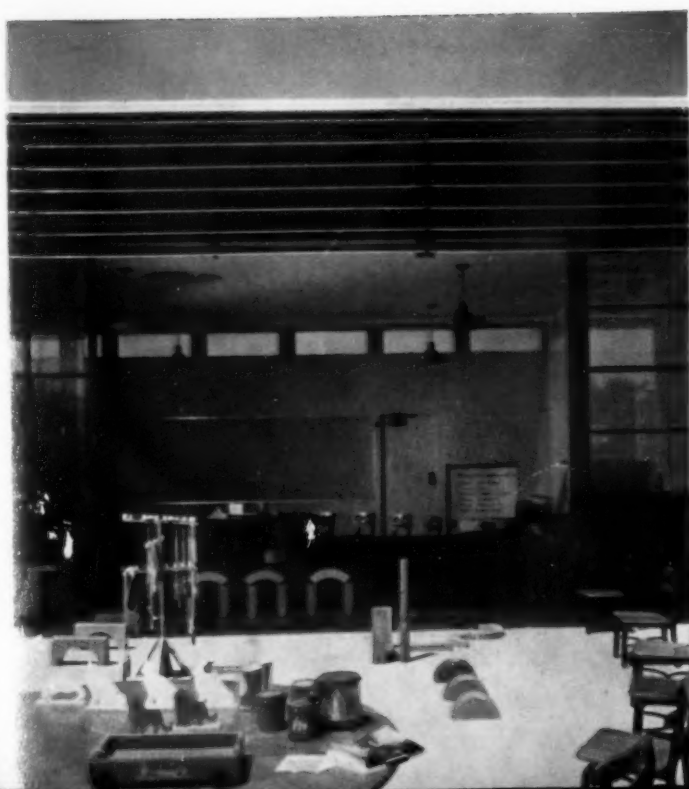
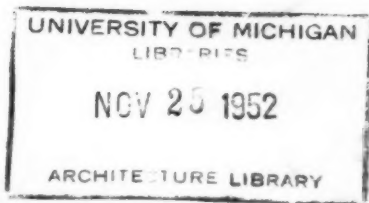


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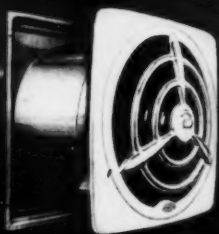
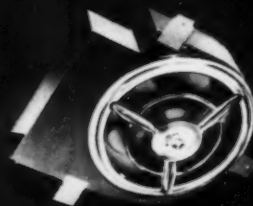
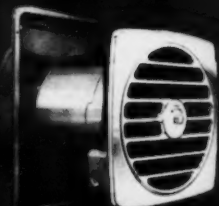
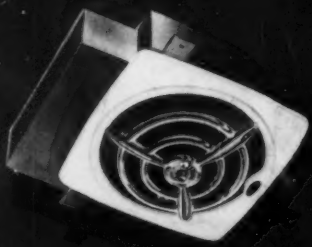
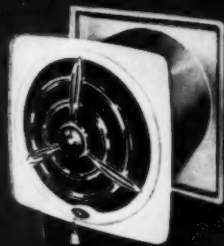
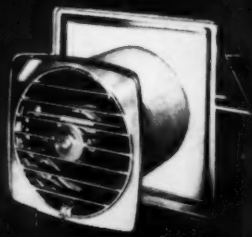
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Vol. 112 • No. 5

November 1952

| | |
|--|-----|
| THE RECORD REPORTS | 11 |
| News from Canada. By John Caulfield Smith..... | 28 |
| News from Washington. By Ernest Mickel..... | 38 |
| Construction Cost Indexes..... | 42 |
| REQUIRED READING | 46 |
| BUILDING TYPES STUDY NO. 192 . . . SCHOOLS | 119 |
| THE EDUCATIONAL PROGRAM IN 1963 | 119 |
| By Archibald B. Shaw, Superintendent of Schools, Scarsdale, N. Y. | |
| IMPROVING SECONDARY SCHOOLS | 123 |
| By John Lyon Reid, A.I.A., San Francisco, Calif. | |
| GEORGE MASON JUNIOR-SENIOR HIGH SCHOOL | 125 |
| Falls Church, Va. McLeod and Ferrara, Architects | |
| ALEXANDER RAMSEY JUNIOR-SENIOR HIGH SCHOOL | 129 |
| St. Paul, Minn. Magney, Tusler and Setter, Architects and Engineers | |
| WILLIAM C. JASON COMPREHENSIVE HIGH SCHOOL | 131 |
| Georgetown, Del. Victorine & Samuel Homsey, Architects | |
| CATHEDRAL HIGH SCHOOL | 135 |
| Natchez, Miss. James T. Canizaro, Architect-Engineer | |
| STONEWALL CONSOLIDATED HIGH SCHOOL | 137 |
| Stonewall, Miss. Bill Archer, Architect-Engineer | |
| ELLSWORTH HIGH SCHOOL | 139 |
| Ellsworth, Me. Alonzo J. Harriman Inc., Architects-Engineers | |
| KESTER AVENUE ELEMENTARY SCHOOL | 141 |
| Los Angeles, Calif. Richard J. Neutra, Architect | |
| ELEMENTARY SCHOOL, ARDSLEY, N. Y. | 145 |
| Robert A. Green, Architect | |
| LEE ELEMENTARY SCHOOL | 148 |
| Manhattan, Kan. F. O. Wolfenbarger & Associates, Architects | |
| 95TH STREET ELEMENTARY SCHOOL | 149 |
| Milwaukee, Wis. Darby, Bogner and Associates, Architects and Engineers | |
| CONTEMPORARY DESIGN IN ISRAEL | 151 |
| Planning and Architecture. By Samuel R. Mozes | |
| 100-BED HOSPITAL ON 150-BED CHASSIS | 159 |
| Olympic Memorial Hospital, Port Angeles, Wash. Gerald C. Field, Architect | |
| SHOWROOM AND OFFICES FOR STANDARD RUG COMPANY | 164 |
| Fort Wayne, Ind. Sidney H. Morris & Associates, Architects | |
| MULTI-PURPOSE HALL MEETS COLLEGE NEEDS | 166 |
| Alumnae Hall, Cedar Crest College. H. F. Everett and Associates, Architects | |
| AN ARCHITECT'S HOUSE IN THE COUNTRY | 168 |
| The Winston Elting House, Libertyville, Ill. Schweikher and Elting, Architects | |
| A THREE-LEVEL HOUSE IN MASSACHUSETTS | 176 |
| Hugh Stubbins, Jr., Architect | |
| RESIDENCE OF MR. AND MRS. WILLIAM B. WIENER | 182 |
| Shreveport, La. William B. Wiener, Architect | |
| HOUSE WITHOUT A LIVING ROOM | 188 |
| Residence for Dr. and Mrs. Lee E. Hartman, Beaumont, Tex. Howard Barnstone, Architect | |
| RESIDENCE FOR MR. AND MRS. WILBUR L. CARTER, JR. | 190 |
| Greensboro, N. C. Edward Loewenstein, Architect | |
| SEVEN HOUSES PLANNED FOR SPECIAL NEEDS | 193 |
| Preview of a Book Prepared for the Future Home Owner and His Architect | |
| ARCHITECTURAL ENGINEERING | |
| TECHNICAL NEWS AND RESEARCH | |
| WOOD SIDING LEFT TO WEATHER NATURALLY | 197 |
| By F. L. Browne, Chemist, Forest Products Laboratory, Forest Service, U. S. Department of Agriculture | |
| LABORATORY ARRANGEMENT SUITS BLAST RESISTANT BUILDING | 200 |
| Armed Forces Institute of Pathology Building, Washington, D. C. Faulkner, Kingsbury & Stenhouse, Architects | |
| THREE CONCRETE STRUCTURES IN DENMARK | 202 |
| Preben Hansen, Architect | |
| PRODUCTS FOR BETTER BUILDING | 205 |
| LITERATURE FOR THE OFFICE | 206 |
| TIME-SAVER STANDARDS | 209 |
| Structural Forms — 12: Long Spans in Wood. By Seymour Howard, Architect, Instructor at Pratt Institute | |
| Metal Lath Membrane Fireproofing — 1-3. Presented through the cooperation of Metal Lath Manufacturers' Association | |
| INDEX TO ADVERTISING | 6 |

INDEX TO ADVERTISING

| | |
|--|---------------------------------|
| a Accurate Metal Weatherstrip Co., Inc. | 354 |
| a Acme Industries, Inc. | 35 |
| abe Adam, Frank Electric Co. | 87 |
| a Adams & Westlake Co. | 207 |
| a Aerofin Corporation | 383 |
| a Aetna Steel Products Corp. | 337 |
| a Air Conditioning Exposition | 366 |
| a Air Devices, Inc. | 336 |
| a Alan Wood Steel Company | 230 |
| a Albemarle Stone Corp. of Virginia | 383 |
| a Allen, W. D. Manufacturing Co. | 357 |
| a Aloe, A. S. Co. | 359 |
| a Alumilene Corporation | 216-217 |
| a Aluminum Company of America | 380 |
| ab Aluminum Window Mfrs. Assoc. | 30-31 |
| a American Air Filter Company, Inc. | 280 |
| ae American Blower Co. | 33 |
| a American Brass Company | 218-219 |
| ab American Hardware Corporation | 62 |
| a American Playground Device Co. | 118 |
| b American Radiator & Standard Sanitary Corp. | 322 |
| ab American Welding & Mfg. Co. | 336 |
| a Ames Iron Works | 314 |
| Amplex Corporation | 100-101 |
| ab Anderson Corporation | 7 |
| a Anemostat Corporation of America | 320-321 |
| ab Architectural Record | 255 |
| ab Armstrong Cork Company | 349 |
| a Arrow-Hart & Hegeman Electric Co. | 74 |
| a Art Metal Company | 56 |
| a Auth Electric Company, Inc. | 285 |
| a Babcock & Wilcox Company | 301-377 |
| ae Barber-Colman Company | 341 |
| a Beckley, William Company | 223 |
| a Beckley-Cady Company | 59 |
| ab Bell & Gossett Company | 258 |
| a Benjamin Electric Mfg. Co. | 256 |
| a Bethlehem Steel Company | 281 |
| a Bituminous Coal Institute | 287 to 292, 332-343-365-372-382 |
| Blank, Frederic & Company | 376 |
| Books | 304 |
| a Boossey, Norman Mfg. Co. | 346 |
| a Bostwick Steel Lath Company | 49 |
| a Bradley Washfountain Co. | 231 |
| a Briggs Manufacturing Co. | 381 |
| ae Brown Company | 70 |
| ab Bruce, E. L. Co. | 95 |
| a Bryant Electric Company | 369 |
| a Bundy Tubing Company | 362 |
| a Burnham Corporation | 214 |
| ae Burt Manufacturing Co. | 39 |
| a Bush Manufacturing Company | 275 |
| a Butler, B. B. Mfg. Co., Inc. | 308 |
| a Byars, A. M. Company | 71 |
| a Cambridge Tile Mfg. Co. | 347 |
| a Canton Slaker Corporation | 86-323 |
| Canvas Awning Institute | 299 |
| Carl Pipe Bending Corporation | 224-225 |
| ae Carrier Corporation | 345 |
| a Cast Iron Soil Pipe Institute | 98 |
| ab Ceco Steel Products Corporation | 316 |
| ae Cedar Rapids Block Company | 102 |
| ab Celotex Corporation | 345 |
| ae Certain-teed Products Corporation | 352 |
| a Chase Brass & Copper | 360 |
| a Cincinnati Time Recorder Company | 328 |
| a Cipco Corporation | 63 |
| a Claridge Equipment Company | 361 |
| Classified Advertisements | 90 |
| ae Cleaver-Brooks Company | 345 |
| a Combustion Equipment Division | 106 |
| a Concrete Reinforcing Steel Institute | 371 |
| a Connor, W. B. Engineering Corp. | 113 |
| b Crane Co. | 353 |
| ab Crawford Door Co. | 110 |
| a Curtis Companies Service Bureau | 220-221 |
| a Curtis Lighting Inc. | 64-283-327 |
| a Curtis Refrigeration Machine Division | 380 |
| a Cutoff Mail Chute Co. | 240 |
| ae Cyclotherm Division | 357 |
| a Day-Brite Lighting, Inc. | 88-89, 108-109 |
| a Detroit Steel Products Company | 353 |
| ae Dicks-Pentluis Co. | 344 |
| ae Dravo Corporation | 345 |
| a Dunham, C. A. Co. | 241 |
| a Du Pont, de Nemours, E. I. & Co. | 328 |
| a Durant International Corporation | 36 |
| a Duriron Company, Inc. | 282 |
| a Dur-O-Wal Products | 105 |
| Eastman Kodak Company | 334 |
| Employment Opportunities | 358 |
| a Equipment Mfg. Co. | 23 |
| a Faber, A. W.-Castell Pencil Co., Inc. | 381 |
| ae Facing Tile Institute | 64-283-327 |
| a Fairhurst, John T. Co., Inc. | 349 |
| a Farr Company | 367 |
| ae Federal Cement Tile Company | 328 |
| a Federal Seaboard Terra Cotta Corp. | 367 |
| a Fenestra Building Products | 328 |
| ab Fiat Metal Manufacturing Co. | 254-326 |
| a Fiske, J. W. Iron Works | 349 |
| a Fitzgibbons Boiler Company | 367 |
| a Flexicore Co., Inc. | 328 |
| ab Flynn, Michael Manufacturing Co. | 110 |
| ae Follansbee Steel Corporation | 384 |
| a Formica Company | 357 |
| a Frick Co. | 50 |
| ae Frigidair Division | 278 |
| a General Aniline & Film Corp. | 315 |
| a General Bronze Corp. | 48 |
| ae General Electric Co., Air Conditioning Div. | 65-276 |
| a General Electric Co., Apparatus | 364 |
| a General Electric Co., Const. Materials | 50 |
| ae General Motors | 43 |
| a General Portland Cement Co. | 339 |
| a Glide Windows, Inc. | 32 |
| a Globe Automatic Sprinkler Co. | 32 |

| | |
|--|------------|
| Glynn-Johnson Corporation | 244 |
| Goodall Fabrics Inc. | 66 |
| a Goodyear Flooring Department | 27 |
| a Governor Corporation | 379 |
| a Grant Pulley & Hardware Co. | 358 |
| Gregory Industries | 250 |
| Guth, Edwin F. Company | 379 |
| a Hachmeister Inc. | 311 |
| a Hall-Mack Company | 115 |
| a Hamilton Manufacturing Company | 364 |
| Hart & Hegeman Division | 349 |
| ae Hauserman, E. F. Co. | 274 |
| a Haws Drinking Faucet Co. | 38 |
| a Heating & Ventilating Exposition | 366 |
| ab Heatlatter, Inc. | 317 |
| ae Hendrick Manufacturing Co. | 363 |
| a Herring-Hall-Marvin Safe Company | 268 |
| a Hilliard Chemical Co. | 34 |
| a Hoffman Specialty Mfg. Corp. | 73 |
| a Holophane Company, Inc. | 305 |
| ab Homasote Company | 351 |
| a Horn Brothers Company | 238 |
| ab Hunter Fan & Ventilating Co., Inc. | 382 |
| ab Ilg Electric Ventilating Co. | 355 |
| a Imperial Brass Manufacturing Co. | 16 |
| Infra Insulation, Inc. | 15 |
| ab Insulite Division | 228-229 |
| International Nickel Company, Inc. The | 379 |
| Iron Fireman Mfg. Co. | 335 |
| ab Jackson & Church Co. | 359 |
| a Jenn-Air Products Company | 373 |
| ae Johns-Manville | 239 |
| a Johnson Service Company | 91 |
| Kennecott Copper Corp. | 102 |
| ab Kentile, Inc. | 19 |
| ab Kent-Moore Organization | 375 |
| a Kewanee-Ross Corporation | 335 |
| a Kewanee Mfg. Co. | 338 |
| a Keystone Steel & Wire Company | 271 |
| a Kimble Glass Company | 277 |
| Kinetic-Chemicals Division | 88-89 |
| Kirlin Co. | 243 |
| a Knapp Brothers Mfg. Co. | 374 |
| a Koh-I-Noor Pencil Co., Inc. | 332 |
| a Kohler Co. | 37 |
| ab Kwikset Sales & Service Company | 1 |
| a LCN Closers, Inc. | 112 |
| a Lees, Jas. & Sons Company | 331 |
| ab Libbey-Owens-Ford Glass Co. | 297 |
| a Litecentral Corporation | 84 |
| a Lockwood Hardware Mfg. Co. | 20-21 |
| ab Louisville Cement Company | 111 |
| a Ludowici Caladon Co. | 324 |
| ae Ludman Corporation | 232-233 |
| ae Macomber, Incorporated | 296 |
| ae Mahon, R. C. Company | 47-117 |
| a Marble Institute of America | 376 |
| a Marie Coil Company | 264 |
| a Marmet Corporation | 359 |
| a Masland Duraluxer Co. | 51 |
| a Masonite Corporation | 267 |
| a Matot, D. A. Inc. | 360 |
| a Madari, Fred Products, Inc. | 107 |
| a Marcold Corporation | 339 |
| a Metal Products Corp. | 55 |
| ab Metal Tile Products Inc. | 340 |
| a Midget-Louver Co. | 339 |
| a Miller Company | 270 |
| ae Mills Company | 368 |
| a Minneapolis-Honeywell Regulator Co. | 40-41 |
| ab Minnesota & Ontario Paper Company | 228-229 |
| a Minwax Company, Inc. | 378 |
| ab Miracle Adhesives Corp. | 302 |
| ae Mississippi Glass Company | 82 |
| a Mitchell Manufacturing Company | 80 |
| a Modine Manufacturing Co. | 273 |
| ae Moore, P. O. Inc. | 368 |
| a Morgan Company | 380 |
| ab Mueller Brass Co. | 368 |
| a National Cotton Council | 71 |
| ae National Electric Products Corp. | 8-9 |
| a National Gypsum Company | 307 |
| a National Lath Co. | 294 |
| a National Plastic Products Company | 92 |
| a National System of Garage Ventilation Inc. | 376 |
| a Natural Slate Blackboard Co. | 355 |
| a Nelson, Herman Division | 30-31 |
| a Nelson Stud Welding | 250 |
| a Neo-Ray Products, Inc. | 341 |
| ae Nesbitt, John J. Inc. | 44-45 |
| a New Castle Products | 279 |
| a Norcor Manufacturing Company | 336 |
| ab Nova Sales Co. | 351 |
| ab NuTone, Inc. | 2nd Cover |
| a Ohio Hydrate & Supply Co. | 362 |
| a Otis Elevator Company | 83 |
| Overly Manufacturing Co. | 76 |
| ab Owens-Corning Fiberglass Corporation | 269 |
| ab Owens-Illinois Glass Co. | 277 |
| Oxalid Division | 278 |
| ab Paine Lumber Co., Ltd. | 341 |
| a Philippine Mahogany Association, Inc. | 375 |
| a Pittsburgh Corning Corporation | 236-237 |
| a Pittsburgh Plate Glass Co. (Paint Div.) | 257 |
| ab Pittsburgh Plate Glass Co. | 68-265-325 |
| a Pittsburgh Reflector Co. | 259 |
| ab Pittsburgh Steel Products Co. | 371 |
| a Portland Cement Association | 295 |
| Powers Regulator Co. | 2-3 |

MANUFACTURERS' PRE-FILED CATALOG

Symbols "a", "b", and "e" indicate that catalogs of firms so marked are available in Sweet's Files as follows:

| | |
|--|---------------|
| a-Sweet's File, Architectural, 1952 | |
| b-Sweet's File for Builders, 1952 | |
| e-Sweet's File, Engineering, 1952 | |
| Products Research Co. | 370 |
| Prox, Frank Company, Inc. | 212 |
| RLM Standards Institute, Inc. | 373 |
| Radiant-Ray Radiation Inc. | 371 |
| Radio Corporation of America | 272 |
| ae Ramsel Fasteners, Inc. | 222 |
| Ready-Power Co. | 261 |
| Remington Arms Company, Inc. | 108-109 |
| a Republic Steel Corp. | 252 |
| Resolite Corp. | 242 |
| ab Revere Copper & Brass, Inc. | 375 |
| ab Reynolds Metals Company | 381 |
| ae Reznor Manufacturing Co. | 306 |
| ae Richards-Wilcox Mfg. Co. | 99 |
| a Richmond Radiator Company | 348 |
| a Rilco Laminated Products, Inc. | 266 |
| a Risson, Oscar C. Company | 383 |
| a Roberts Co. | 245 |
| ae Robertson, H. H. Co. | 373 |
| ab Roberson, L. N. Co. | 284 |
| ab Roodis Plywood Corporation | 78-79 |
| ae Rotary Lift Co. | 96 |
| a Rowles, E. W. A. Company | 309 |
| Russell, Burdall & Ward Nut & Bolt Co. | 218-219 |
| ab Russell & Erwin Division | 81 |
| a Sarco Company, Inc. | 367 |
| a Schieber Sales Company | 85 |
| a Schlage Lock Company | 94 |
| Scientific Apparatus Makers Association | 360 |
| ae Scott Paper Company | 248 |
| a Seaparc Metals, Inc. | 378 |
| a Sedgwick Machine Works | 249 |
| a Servel, Inc. | 210 |
| a Serviced Products Corp. | 97 |
| Shwayder Bros., Inc. | 260-261 |
| Silvray Lighting, Inc. | 359 |
| a Simpson Logging Company | 4th Cover |
| Sjostrom, John E. Company | 370 |
| ae Sloan Valve Company | 3rd Cover |
| Smith, A. O. Corporation | 361 |
| a Smith, H. B. Co., Inc. | 365 |
| Solar Light Manufacturing Company | 347 |
| Spartan Faraday, Inc. | 300 |
| Square D Company | 377 |
| ab Standard Dry Wall Products | 328 |
| a Standard Electric Time Co. | 363 |
| a Statement of Ownership | 58 |
| a Stem, Chester B. Inc. | 355 |
| ab Sterling Hardware Mfg. Co. | 374 |
| a Structural Steel Company | 364 |
| Struthers-Wells | 303 |
| a Summerbell Roof Structures | 350 |
| ab Surface Combustion Corporation | 262-263 |
| ae Swartwout Co. | 96 |
| Sweet's Catalog Service | 347 |
| Symons Engineering Co. | 340 |
| ae Taylor, Halsey W. Co. | 312 |
| Thermador Electrical Mfg. Co. | 67-251 |
| ab Thrush, H. A. & Company | 356 |
| a Tile Council of America | 329 |
| Timber Engineering Company | 57 |
| a Timber Structures, Inc. | 374 |
| ae Titus Manufacturing Corp. | 361 |
| a Titusville Iron Works | 24-25 |
| Todd Shipyards Corporation | 369 |
| ae Trane Company | 43 |
| a Tremco Mfg. Co. | 293 |
| a Trinity Division General Portland Cement | 252 |
| ae Trumbull Electric Dept. of General Electric | 69 |
| ab Truscon Steel Company | 282 |
| a Tuttle & Bailey, Inc. | 75 |
| Union Insulating Co. | 246 |
| Unistrut Products Co. | 54-286-310 |
| Unit Structures, Inc. | 110 |
| ab United States Plywood Corp. | 318 |
| ae United States Radiator Corp. | 318 |
| ae United States Steel Corp. Subsidiaries | 318 |
| a United Steel Fabricators Inc. | 235 |
| a Universal Atlas Cement Company | 342 |
| a Universal Bleacher Company | 234 |
| a Upco Co. | 77 |
| a Uvalde Rock Asphalt Co. | 116 |
| a Valley Metal Products Co. | 29 |
| ae Viking Corporation | 104 |
| Vogt, Henry Machine Co. | 114 |
| a Vonnegut Hardware Co. | 333 |
| a Vulcan Radiator Co. | 298 |
| ae Wakefield, F. W. Brass Company | 330 |
| Walt Trends, Inc. | 368 |
| ae Wasco Flashing Co. | 114 |
| a Waylita Co. | 208 |
| a Wayne Iron Works | 226 |
| ae Webster, Warren & Co. | 349 |
| a Weiss, Henry Mfg. Co. Inc. | 52-53-103-241 |
| Western Pine Association | 227 |
| ab Westinghouse Electric Corporation-Apparatus | 212 |
| Westinghouse Electric Corporation-Elevator | 330 |
| Westwood Manufacturing Co. | 60-61 |
| ae Wheeling Corrugating Company | 367 |
| a Wiggins, H. B. Sons Co. | 332 |
| a Wing, L. J. Mfg. Co. | 368 |
| a Wiremold Company | 363 |
| a Worthington Corporation | 253 |
| ae Young Radiator Company | 361 |
| ab Zenolite Company | 361 |

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THE RECORD REPORTS

ARCHITECTS FLOCK TO A.I.A. REGIONAL CONFERENCES

New Regional Councils Formed; Functionalism Attacked and Defended — Season Opens

THE STRING OF REGIONAL CONFERENCES of the American Institute of Architects which launched the fall season with a vengeance during the last six weeks had an aggregate attendance well over 2000 and programs that ranged from discussions of such specific subjects as tilt-up construction and the problems of young architects entering the field to the esthetics of architecture. On that latter topic comment ranged from Edward Stone's characterization of purely functional architecture as "weak tea" to Charles Eames' assertion that there's too much "function is all right, but —" comment around these days. Organization of regional councils at some meetings and at least preliminary discussions at all furthered the prospects of intensified regional activity. The A.I.A. Board of Directors said in June it hoped regional councils would be organized in all districts to increase A.I.A. benefits to members and keep the Board in closer touch with architects and the problems they face.

"Schools in the Southeast" was the official theme of the first annual conference of the South Atlantic District of the A.I.A., held in late September at Atlanta with the Georgia Chapter as host. An exhibit of 115 new education



Gabriel Benzur

Organization session for South Atlantic A.I.A. Regional Council: Herbert C. Millkey (second from left), president of the Georgia (host) chapter, and G. Thomas Harmon III (second from right), A.I.A. regional director, confer with region's chapter presidents



Phillip A. Heine

Chapter presidents of A.I.A. Northwest District look over the exhibits: Ernest Gales, Idaho; H. Abbott Laurence, Oregon; Victor Wulff, Spokane; J. von Teylingen, Montana; and Paul Thiry, Washington State



Lane Bros.

At the South Atlantic Regional Exhibit: Mr. Harmon; Julian Harris, architect and sculptor and chairman of the conference committee; and Mr. Millkey

building projects was a major feature of the conference; projects on view, shown in scale models, photographs and drawings, represented the work of architects in all of the states of the South Atlantic Region — Florida, North Carolina and South Carolina as well as Georgia.

Citations for meritorious design went to Bush-Brown, Gailey and Heffernan, Architects, for the new library building at Georgia Institute of Technology; Stevens and Wilkinson, also of Atlanta, for the East Rivers School and Roswell High School, Atlanta; William J. Lyles, Bisset, Carlisle and Wolfe, Columbia,

S. C., for the Langley-Bath-Clearwater High School, Aiken County, S. C.; G. Milton Small, Raleigh, for the Nuclear Reactor Laboratory, University of North Carolina, Raleigh; and E. Oren Smith, Columbus, for the new Negro High School, Muscogee County, Ga.

Mentions were given to four other firms: Aeck Associates, Atlanta, for the men's dormitory, Fort Valley, Ga., State College; Robert M. Little, Miami, for Ring Theater, University of Miami; Burrett H. Stephens and Robert H. Stephens, New Bern, N. C., New Bern High School; and Watlin and Deutsch-

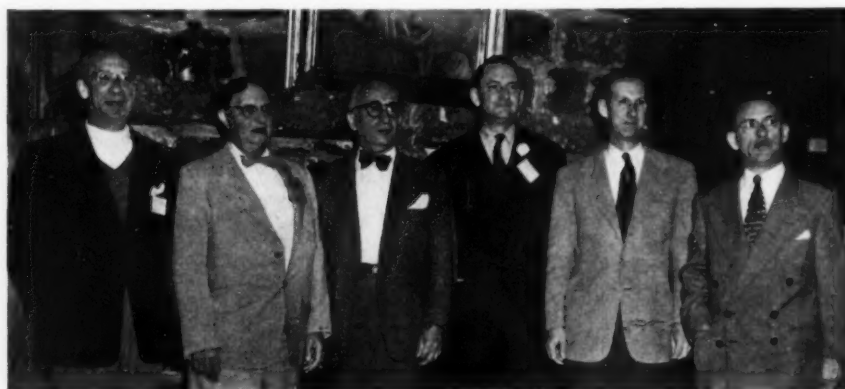
THE RECORD REPORTS



Northwest Regional Conference: A.I.A. Executive Director Edmund Purves; Regional Director Irving D. Smith; Francis Joseph McCarthy, A.I.A., San Francisco, vice chairman of A.I.A. Committee on Public Relations, a speaker; and President Stanton



Speakers in the South Atlantic Conference seminar on school building in the southeast: Thomas Cooper, North Carolina A.I.A. president; Robert Little, A.I.A., Miami; Henry Wright, A.I.A., Los Angeles; and William Henry Dietrick, North Carolina



At Lake Placid, officers of the New York State Association of Architects: Harry M. Prince, New York, 3rd vice president; G. Morton Wolfe, Buffalo, 2nd vice president; Adolph Goldberg, Brooklyn, 1st vice president; Donald Q. Faragher, Rochester,



Jim Barry

president, John W. Briggs, Rochester, secretary, and Martyn Weston, Brooklyn, treasurer. At right above: the well-known philosopher Roger Allen provided the New York convention's lightest moments discussing "Philosophy for the Architect"

(Continued from page 11)

man, Miami, North Dade High School, Dade County, Fla.

Regional Director G. Thomas Harmon III of Columbia, S. C., was elected chairman of the South Atlantic Regional Council organized at the conference by action of all the chapter presidents of the district.

The week during which the conference was held was proclaimed by Gov. Herman Talmadge "Architects' Week" in Georgia and the cause of public knowledge of architecture was further advanced by the conference committee's action in arranging for the architectural exhibit at the Atlanta Biltmore headquarters to be open to the public.

At the seventh annual Central States Regional Conference in Kansas City

October 9-11, "The Esthetic Evaluation of the Art of Architecture" held the spotlight, with seminars on "Esthetic Qualities in Architecture," "Sculpture as Related to Architecture," "Painting as Related to Architecture," and "Stained Glass in Architecture."

Edward Stone of New York bewailed the approach of architects of the last two decades as "an arid utilitarian expression, computing cubic costs long before we have had a chance to dream of anything beautiful."

"Our utilitarian formula," Mr. Stone said, "works extremely well when applied to industrial buildings, hospitals and office structures, but does not apply with equal force to churches, domestic architecture and civic buildings where monumentality is a consideration and utility is not the prime consideration."

Charles Eames, on the other hand, insisted there are still too many aspects of architecture that are too calculable but neglected. He thought it was a little soon to start "but-ing" function out of existence.

The appeal for feeling and "human quality" in architecture was voiced again by Bruce Goff, who saw much contemporary architecture as "too mechanistic and materialistic."

"There is some little danger if the trend should continue that architecture in this country might become a meaningless formula, repeated over and over without reason," Mr. Goff asserted.

As for art in architecture, Thomas Hart Benton felt painting and sculpture could not regain their place in architecture or society until artists again are interpreting public life and ideas instead

of their own lives and ideas.

Public relations and the architect was a major subject of discussion, both formal and informal, at the Northwest Regional Conference at Spokane October 3-5. Main speaker in this field was Francis Joseph McCarthy of San Francisco, vice chairman of the A.I.A.'s National Public Relations Committee, who emphasized that service to the public is the vital basis of a public relations program for architects; "publicity" as such is only a tool, however useful.

At the conference, the Northwest Regional Council, organized last year as the second in the nation, nominated Waldo B. Christenson of Seattle as its candidate for regional director to succeed Irving G. Smith of Portland, whose term expires next June.

The Sierra Nevada Regional Conference, held jointly with the annual meeting of the California Council of Architects, had an attendance of 600, including all the charter members of the Orange County, Calif., Chapter of the A.I.A., a new chapter (105th in the nation, 10th in California) instituted at the opening session.

The program included presentation to John S. Bolles of San Francisco of the Valentine Kirby Award for the California architect who has best incorporated original art into his building.

Seminars featured tilt-up construction and a special program for junior associates of the A.I.A. on "Entering the Field." Dean William Wurster of the University of California called for a more scholarly approach in the schools to develop "a core of design and expression, a core of technology, a core of humanism based on a general knowledge of the world." Clinton C. Ternstrom,

A.I.A., representing the practitioner's viewpoint, also stressed that to be good architects young men must understand the architect's job in society as well as in the office.

There was a report on Polish architects' reaction to contemporary American architecture from Thomas L. Creighton, editor of *Progressive Architecture*, who spent 10 days in Poland last summer with a group of 50 architects from 20 countries who toured Poland at the invitation of the Polish Society of Architects. Mr. Creighton said the Polish architects feel contemporary U. S. architecture is so tied up with technological development that it follows preconceived esthetic concepts—the reverse of "form follows function"; that it has no relation to the needs of the people; that it has no roots in folk or historical architecture. Mr. Creighton, while taking issue with these views, suggested that a reexamination of our own architecture and methods may be indicated in the light of Soviet criticism and its influence on so many people in all phases of art.

The Great Lakes Regional Council of the A.I.A. was organized at a joint meeting with the Ohio Society of Architects in Cincinnati October 2-3. Chairman is John N. Richards, Toledo, regional director; secretary, Charles H. Marr, New Philadelphia, Ohio.

Awards of Merit were given at the annual convention of the New York State Association of Architects, held October 2-3 at Lake Placid, to Robert A. Green, Tarrytown, for the Ardsley Elementary School; Skidmore, Owings & Merrill, Sargent, Webster, Crenshaw & Folley, Associate Architects, for the Edward John Noble Hospital, Alexan-



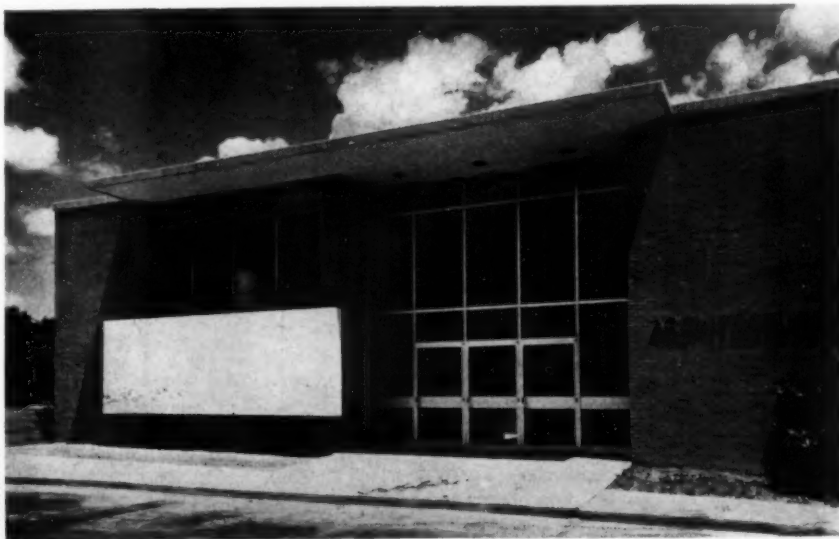
Sierra Nevada Regional Conference Delegate Kenneth Roehling of Hawaii, A.I.A. President Glenn L. Stanton and Charles Matcham, regional director

dria Bay, N. Y.; and to Skidmore, Owings & Merrill and Merrill Claude Hooton, Associate Architects, for the Pan-American Life Insurance Building, New Orleans.

Mention awards went to King & King, Sargent, Webster, Crenshaw & Folley, for North Syracuse Central School District Junior-Senior High School; Moore & Hutchins, for the Roslyn East Hills Elementary School; Kelly & Gruzen, for Elmwood, N. J., Shopping Center; Sargent, Webster, Crenshaw & Folley, for Marsellus Residence, Dewitt, N. Y., and St. Lawrence Central School, Brasher Falls, N. Y.; and Skidmore, Owings & Merrill for Brooklyn V.A. Hospital, Greenwich, Conn., Hospital and Manhattan House, New York City.

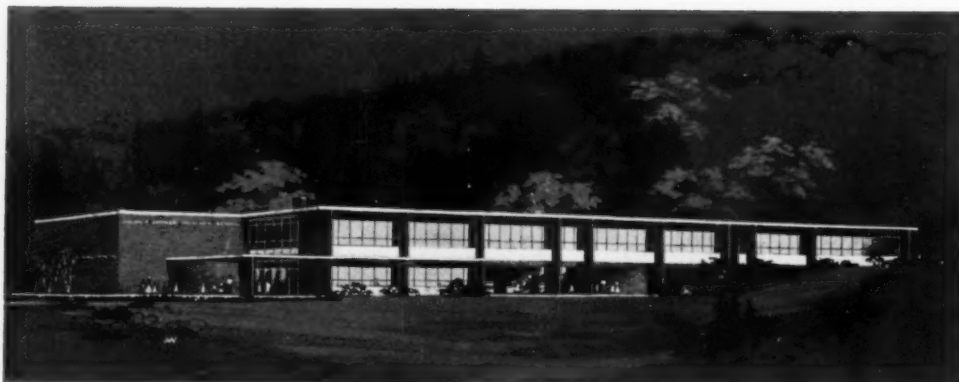
NEW ARCHITECTURE BUILDING

The million-dollar Architecture Building of the Georgia Institute of Technology, designed and supervised by members of the architectural staff, was formally dedicated as part of the South Atlantic Regional Conference program. The building, of reinforced concrete construction with brick walls and aluminum window framing, is built on three levels; a library and gallery over an open concourse join the two main wings—a four-and-a-half story classroom wing to the north and a two-story wing to the south containing auditorium, exhibition and judgment room and offices. Architects: Bush-Brown, Gailey & Heffernan



Gabriel Benzur

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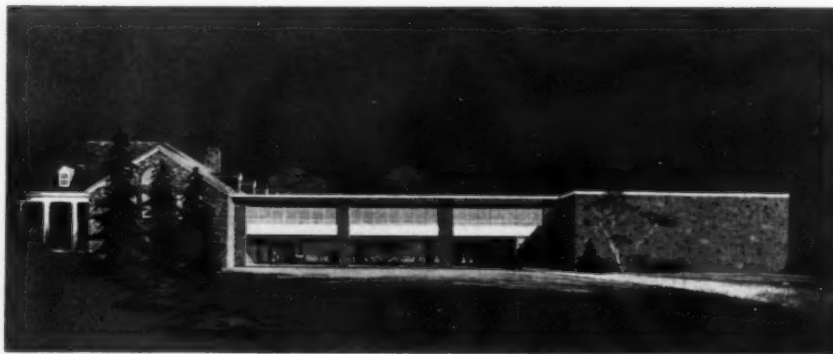
Primary school to be built in Tarrytown, N. Y.: \$14 per sq ft

NEW SCHOOL PROJECTS PLANNED TO CUT COSTS

ROBERT A. GREEN, Tarrytown, N. Y., architect, thinks he has reached with these projects and a fourth at Ardsley, N. Y., (see page 145) the culmination of several years' effort to lower school costs by careful design practices. In an area where school building costs average \$18-\$21 per sq ft, he has two schools (Purchase and Tarrytown) out for bid with budget estimates of \$12 and \$14 per sq ft respectively and a third (Valhalla) under construction at \$15 per sq ft actual cost. These results have been achieved by constant plugging to eliminate waste space and constant attention to design of the structure to require minimum work at the site.

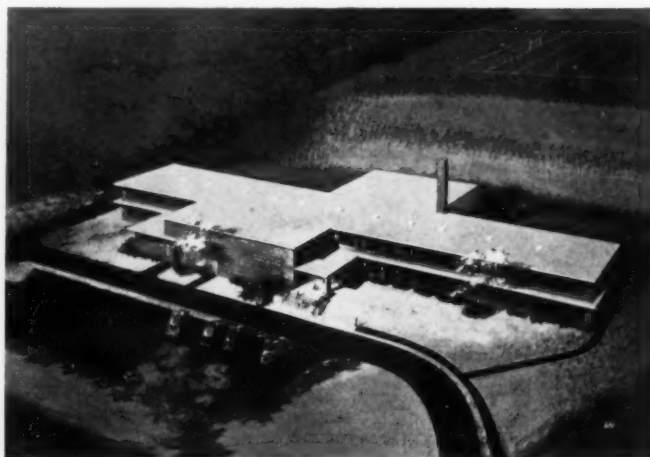
In all of these schools, corridors are kept to the essential minimum; classroom sizes are generous but units are planned so all space is utilized. The structural design and detailing is guided by an effort to reduce the number and kinds of units and finishes employed — by such devices as standard sizes for windows; stock materials and equipment: standard cabinets for all classrooms, standard plumbing, shop-fabricated steel window frames which become part of the structure so no lintels are needed; virtual elimination of woodwork and paint.

Whenever possible the contracts for these schools make the supplier responsible for installation of equipment. They are fireproof construction — masonry-bearing walls of integrally-colored block, exteriors of brick or stone, roofs dead level lightweight long-span concrete plank.



Addition to Purchase, N. Y., primary school: \$12 per sq ft

Valhalla's primary school project: \$15 per sq ft



Adolph Study

THE RECORD REPORTS

N. E. A. SURVEY REFLECTS INCREASED SCHOOL NEEDS

THE CONTINUING AND INCREASING NEED for more school buildings is well documented in the National Education Association's October 1952 research bulletin "The Effects of Mobilization and the Defense Effort on the Public Schools."

Of 1270 school systems in American cities of 2500 population or over which responded to an N.E.A. questionnaire sent out last December, 30.5 per cent reported that if all projects under way were completed the number of classrooms urgently needed would still be larger than it was two years ago; another 56.7 per cent said in spite of new construction the number of urgently needed classrooms was the same.

The leading reason for the failure of the school building program to catch up with the need was reflected in the testimony of the school systems on increased enrollments — not only in elementary but in secondary schools as well.

Educators put overcrowded school buildings second only to the shortage of qualified teachers among "serious current problems" listed by N.E.A. Of school systems responding, 22.1 per cent reported more pupils housed in make-shift classrooms than in 1949 and 68.1 per cent reported as many; 8.1 reported a larger number of pupils on a half-day schedule (because space must be shared) and 85.4 per cent reported as many.

School building projects "which should be started soon but probably cannot be" were reported by 46.8 per cent of respondents; 41 per cent said the delays were due to financing difficulties, 34.3 per cent to materials shortages and 14.4 per cent to a combination of the two factors.

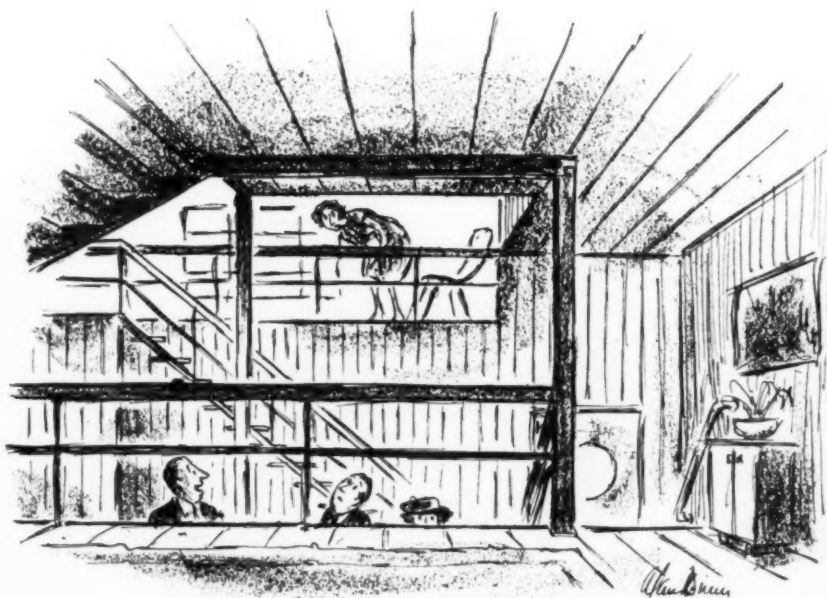
Projects under way that were halted by "current conditions" were acknowledged by 162 of the school systems, or only 13.2 per cent, largely (74.1 per cent) due to the materials shortage; but N.E.A. points out that pupil accommodations involved in the stoppages reported by only 144 of the 162 cities amounted to 115,315.

College Enrollments Rise

Sixty-five per cent of 507 institutions reporting show an increase in college freshman this fall, Dr. Raymond Walters, University of Cincinnati president, has announced. The rise in freshman enrollment has halted a downward trend of college registrations.

UPWARD TREND OF SCHOOL ENROLLMENTS REPORTED BY NEA

| Type of Enrollment | Number | Per Cent |
|---|--------|----------|
| Regular elementary: | | |
| Schools reporting enrollments larger in 1951 than in 1949..... | 992 | 81.8% |
| Change in aggregate number of pupils from 1949 to 1951..... | — | +8.5% |
| Regular secondary: | | |
| Schools reporting enrollments larger in 1951 than in 1949..... | 796 | 65.7% |
| Change in aggregate number of pupils from 1949 to 1951..... | — | +3.8% |
| Adult classes: | | |
| Schools reporting adult-education enrollments larger in 1951 than in 1949..... | 426 | 37.6% |
| Change in the aggregate number of adult-education students from 1949 to 1951..... | — | +2.1% |
| Pupils new to the system: | | |
| Schools reporting number of new pupils larger in 1951 than 1949..... | 378 | 70.3% |
| Change in aggregate number of new pupils 1949 to 1951..... | — | 18.7% |



"Notice how the space flows up and down as well as sideways—"

—Drawn for the RECORD by Alan Dunn

THE RECORD REPORTS

X



Grover Brinkman

NEW BUILDING 4

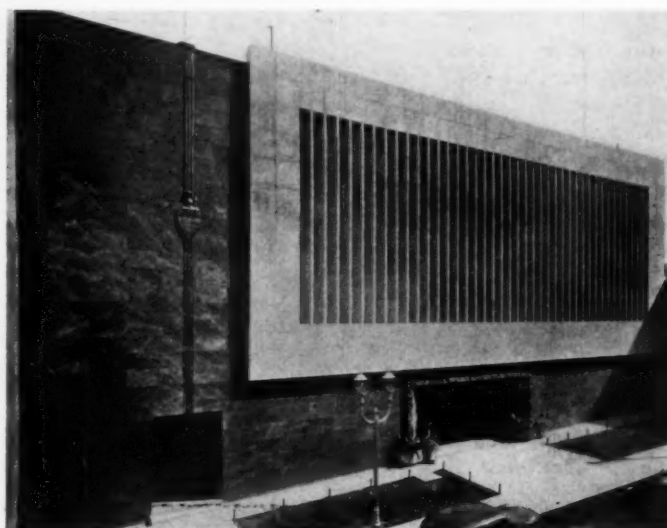
Faith Hospital in St. Louis has been dedicated. Patients' rooms face south for maximum sun in winter, are recessed for control of heat and light in summer. The hospital, which cost \$1,200,000, has 200 beds. Architect: Joseph D. Murphy.



This new building for the executive offices of the Chain Belt Company of Milwaukee was designed by the architects, Eschweiler and Eschweiler, to allow addition of third and fourth floors in later expansion. Exteriors are brick, with stainless-steel facing between continuous metal windows; structural frame is reinforced concrete, with a center span of 40 ft and 13-ft cantilevers on the north and south sides. Core of the building, with the 40-ft clear span, is the general office space, with private offices, wash rooms, lounge, vault and stair wells around the perimeter. The building is air conditioned throughout.



Banco Capitalizador de Monterrey, Mexico, Monterrey's newest bank building, has one huge window, set approximately 2 ft behind marble slats; the building is so oriented that when the sun is at its height the slats shield the window to reduce heat and glare. The facade is marble. The building is entirely air conditioned. Architects were Marcelo Zambrano and Guillermo Belden of Monterrey.



Roberto Ortiz M.

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Contractor: ROBERT E. MCKEE, INC.



Dallas Morning News, Dallas, Texas
Outstanding modern plant in the newspaper publishing field.
Architect: GEORGE L. DAHL
Contractor: BECK CO.



Wake Forest College, Reynolda, N. C.
Huge project to construct entire new college — 21 buildings, first group — ultimately planned 40 buildings.
Architect: JENS FREDERICK LARSON
Contractors: (to date) GEORGE W. KANE;
FOWLER JONES CONSTRUCTION CO.



Southwest Tuberculosis Sanatorium, Tampa, Fla.
Modern 540 bed hospital with complete operating suite.
Architects: REYNOLDS, SMITH & HILLS
Contractor: ARNOLD CONSTRUCTION CO.

THE RECORD REPORTS

Wayne University Community Arts Building; view from the southeast. Parts of the Art, Music and Speech Departments of the College of Liberal Arts and of the College of Education will be housed in the building, which will also have a 600-seat auditorium for the use of all colleges and schools of the university as well as the public.



NEW FINE ARTS CENTER PLANNED FOR WAYNE UNIVERSITY

PLANS for a Community Arts Building for Wayne University, Detroit, Mich., have received approval from the Detroit Board of Education. Architect for the structure is Suren Pilafian.

Planned to house parts of the art, music and speech departments of the College of Liberal Arts and of the College of Education, the building is to include eventually a 600-seat auditorium for the use of all colleges and schools of

the university and the general public as well. The entire building will be able to accommodate over 3000 persons at one time.

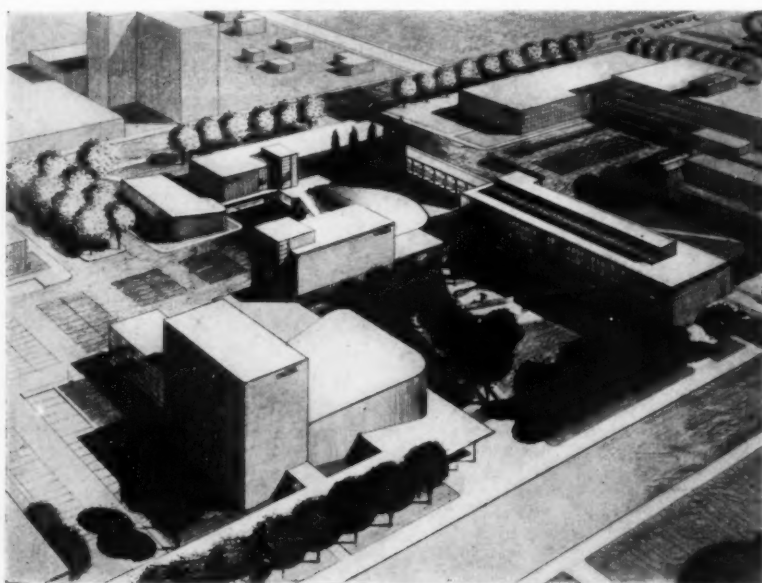
Separate multi-story wings are provided for each of the three departments. Each wing is connected at the first floor to the others and to the auditorium and an outdoor exhibition area. The architect has explained that this arrangement provides better acoustical isolation and

natural illumination for each department than a more compact arrangement would afford. This is achieved at no additional cost, and provides for more efficient spatial relationships within each department, Mr. Pilafian noted. In addition, the scheme makes it economically possible to construct each division separately, if necessary, and permits flexible enlargement of each unit.

The music wing is a three-story structure housing rehearsal rooms (separated from the rest of the buildings by one-story sound-lock vestibules), classrooms, practice rooms, study and listening rooms, offices and a library. The four-story art wing, including a fully-used basement, contains studios and shops for the various arts and crafts and is planned to provide good north light. The speech wing is five stories high, again including a fully used basement, and houses radio and television studios in addition to departmental offices, specialized classrooms and laboratory facilities.

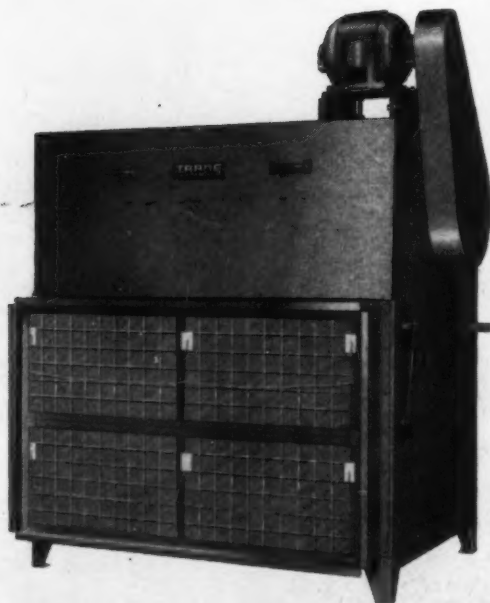
Construction will be largely of concrete, with structural steel framing employed over tall spaces where fire-proofing is not required. Exterior facing will be of brick with stone and aluminum trim. Windows will be largely glass block on the south and heat-absorbing blue glass on some of the east and west exposures. Spandrel facing materials will be light weight insulated panels coated with polyester plastic or steel sheets finished with porcelain enamel.

Landscaped sculpture court (right foreground) is planned for space surrounded by art wing, exhibit areas, speech wing and future theater (left foreground). Court will have sloping lawn for use as outdoor theater for simple performances. Outdoor study facilities will be provided





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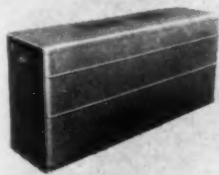
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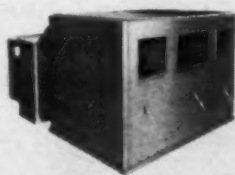
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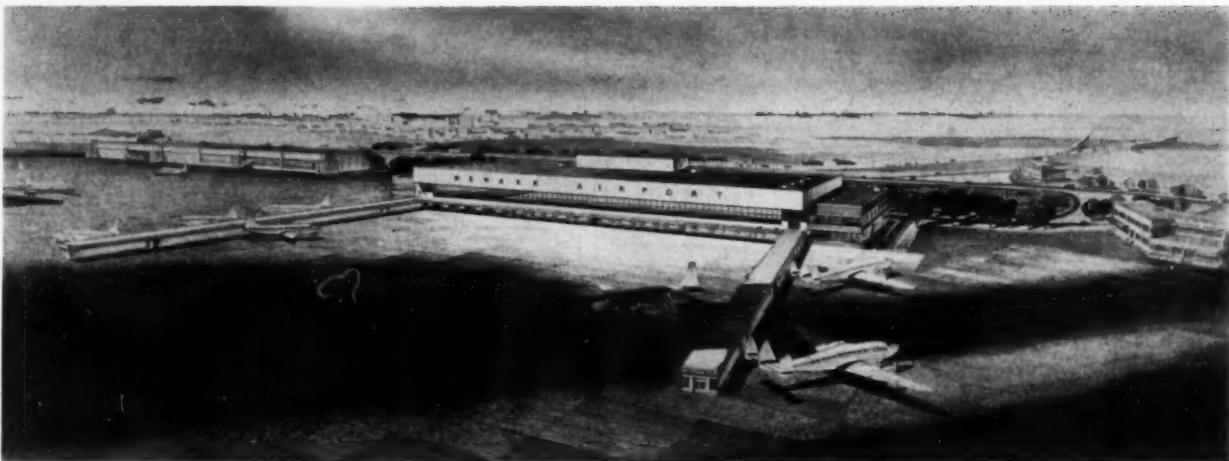
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Above: new terminal building seen from field with loading arcs at either side

NEW TERMINAL UNDER WAY FOR NEWARK AIRPORT

CONSTRUCTION is in process for a new \$8,500,000 Terminal Building for the Newark, N. J., Airport operated by the Port of New York Authority. Reopening of the airport, which has been the subject of controversy ever since a series of three disastrous air crashes in nearby Elizabeth forced it to close February 11, 1952, is now expected to take place within the next few months.

Architect of the terminal is the Port of New York Authority; A. Gordon Lorimer is consulting architect.

Steelwork for the new building has already been erected, and construction has passed the halfway mark. Completion is expected in summer 1953 for the main structure and one of the loading fingers. The other finger is scheduled for completion in December 1953.

The new terminal will have five times as much floor space as the present outmoded Administration Building, which is 18 years old. The existing building is to be converted to other uses.

Hangar Construction Used

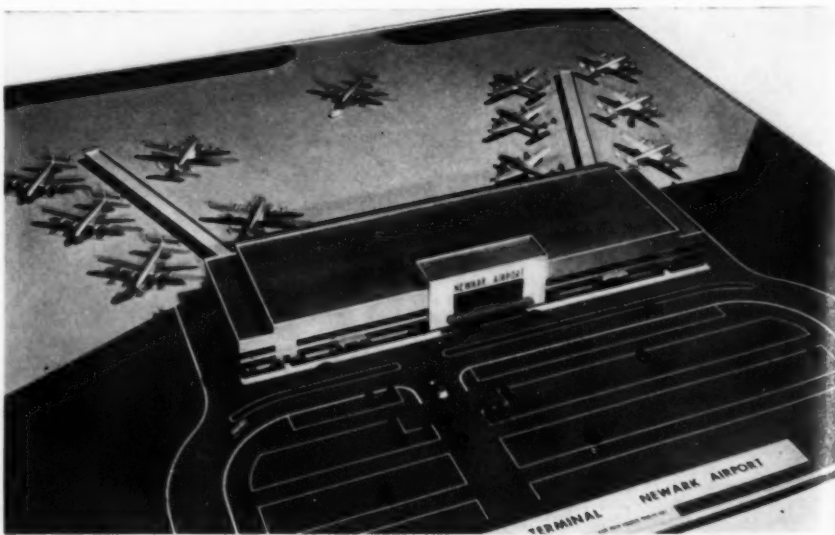
An interesting constructional feature of the new building is its adaptation of a basic structural framework usually employed in hangar construction. Purpose of this construction is to permit easy conversion and maximum flexibility for other purposes whenever the building is no longer useful in its present role.

The terminal will have a main floor of approximately 93,000 sq ft in area and a surrounding mezzanine comprising 43,000 sq ft. The main floor provides

(Continued on page 342)



Above: interior of terminal showing observation deck, airline counters, lobby, shops. Below: model of new building with parking facilities in foreground, aircraft loading areas in background. Finished structure will differ slightly in some details





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NEWS FROM CANADA by John Caulfield Smith



Kitchener-Waterloo Hospital, Kitchener, Ont.; Govan, Ferguson, Lindsay, Kaminker, Maw, Langley, Keenleyside of Toronto, architects

R.A.I.C. President Finds Building Outlook Good

THE \$35.1 MILLION FALL-OFF in construction contracts awarded in September 1952 compared with September 1951, as reported by MacLean Building Reports Ltd., is not regarded with too much concern by R. S. Morris, president of the Royal Architectural Institute of Canada, who sees the slowdown as a temporary one.

Mr. Morris, pointing out that steel restrictions have dammed up certain classes of construction, suggests that the captive demand thus created has now become very great and will keep the industry in the larger centers active for many months when released.

"Considerable expansion of the means of producing building materials has taken place during the last few years," Mr. Morris says. "No serious shortage is to be expected except in steel, which will probably be under heavy demand for at least some months after the removal of restrictions."

As for construction costs, Mr. Morris' opinion is that the substantial increase that has taken place in wage rates has been compensated for by a decrease in prices. He adds: "Given stability in

prices generally, we may look forward to fairly stable costs and a high, if somewhat spotty, level of activity."

Continued High Level Seen For 1953 Defense Building

R. G. JOHNSON, president of Defense Construction (1951) Ltd., says defense construction contract volume will remain high, that there would be many more tender calls for substantial projects, and a big bulk of smaller jobs, during the second half of the current fiscal year.

Mr. Johnson told the Maritime Regional Conference of the Canadian Construction Association that the dollar total of defense construction contracts awarded in 1952-53 will be "similar" in amount to that of 1951-52 when the figure was \$205 million. And he reminded C.C.A. members that the size of the over-all defense construction program has risen to an estimated \$500 million in contrast to the initial conception of a program approximating \$200 million.

A new diversification of the crown company's activities was outlined by Mr. Johnson. In addition to handling, as hitherto, all new defense construction projects, it is now responsible for (a)

Three Ontario architects are shown at the opening of the London, Ont., architectural exhibit at the public art gallery and museum. Earl Sheppard (center), president of the Ontario Association of Architects, is pointing to a model of Knox Presbyterian Church, Goderich, Ont., designed by Philip C. Johnson (left). With them is Robert D. Schoales, London Board of Education architect and Ontario association treasurer



rehabilitation and maintenance works in Canada, which until recently were the responsibility of another branch of the Department of Defense Production; (b) the construction aspects of the capital assistance plan and certain phases of the Colombo plan and (c) defense construction projects in France being carried out by French contractors for Canadian service personnel.

Steel Controls Relaxed, May End Before 1953

THE CANADIAN GOVERNMENT appears to have adopted a plan to ease present steel controls. With the U. S. steel strike over, and domestic steel production soaring to new heights, general contractors and builders are now getting permission to buy as much as 200 tons at a time.

The generosity of the Government's steel administration in making allocations is being applied to all types of construction with the exception of breweries, liquor stores and recreational centers such as dance halls, bowling alleys and theaters.

As pressure of demand for steel eases, the 200-ton ceiling may go even higher. Informed sources estimate that by the

(Continued on page 32)

his angle...

And here's something else, Mr. Adams! DRAFT|STOP traps cold air downdraft created by large window areas before the cold air can swish across the floor. Children are no longer harassed by cold ankles and shoulders. Today, as more and more schools are experiencing this new adventure in air handling, there is less discomfort due to drafts—not to mention a better environment for learning.

If you are concerned with a new school project or a school modernization program, follow the advice of consulting engineers, architects, teachers and administrators everywhere—specify Herman Nelson DRAFT|STOP. You'll be in good company! For further information, write Dept. AR-11, Herman Nelson Division, American Air Filter Company, Inc., Moline, Illinois.



Lincoln School is one of more than a hundred new schools in use this fall in which heating, ventilating and cooling are controlled by Herman Nelson DRAFT|STOP. DRAFT|STOP is the unique system which eliminates cold drafts by drawing window-chilled air down through grilles and back into the unit ventilator. Thus the draft is stopped before it starts.



Lincoln School, Menominee, Michigan. Kindergarten classroom shown above. Architect, Harry W. Gjelsteen; Consulting Engineer, Louis Resnick; Superintendent of Schools, M. W. Robinson.

MORE SCHOOLS INSTALL DRAFT|STOP

East, west, north, south—wherever new schools and school additions are built, there you'll find the Herman Nelson DRAFT|STOP System, providing efficient heating, ventilating, and cooling of classrooms. Here are a few recent installations:

| | |
|--|--|
| Junior High School Rantoul, Illinois | Appleton School Appleton, Minnesota |
| Engineers Building Valparaiso University Valparaiso, Indiana | Frazier Elementary School Brentwood, Missouri |
| St. Mary's School Ottumwa, Iowa | George Washington School Morristown, New Jersey |
| Stevens Ave. Elementary School Portland, Maine | New Elementary School 18th Snyder, New York |
| Beltville Elementary School Beltsville, Maryland | Pleasant View School Canton, Ohio |
| Henry Grew School Hyde Park, Mass. | St. John's Parochial School Bellefonte, Penna. |
| Eden Park School Cranston, Rhode Island | Cherrydale Elementary School Arlington County, Va. |
| Lincoln School Pierre, South Dakota | McKinley School Wauwatosa, Wisconsin |
| Whittier School Bay City, Michigan | |

DRAFT STOP

HERMAN NELSON

SYSTEM OF CLASSROOM
HEATING AND VENTILATING

THE RECORD REPORTS

CANADA

(Continued from page 28)

end of the year the Government may lift all bans on the use of steel for any type of construction and on the amount of steel that may be stockpiled by any company.

The Government's steel administration is issuing permission freely to com-



A. Bruce Etherington of Oakville, Ont., was architect for this laundry building at Oakville





FIREMEN EVERY 10 FEET

HOW TO REDUCE INSURANCE COST
 Insurance authorities know that automatic sprinklers *discover and stop FIRE*. Savings in annual premiums after you install automatic sprinklers, often pay for the system in 4 to 8 years. Install **GLOBE Automatic Sprinklers** now.

GLOBE AUTOMATIC SPRINKLER CO.
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THEY PAY FOR THEMSELVES

panies which want to get as much as 500 tons of ingot steel from American sources, but it still is keeping a tight hold on steel obtained on allocation through the U. S. Government's Controlled Materials Plan. It probably will continue to do so for months.

Reason for this is that CMP was devised to coordinate channeling of steel first to defense projects and then to essential industry. Canada's allocation — roughly about one third of her domestic production — was granted to help Canadian defense and defense-supporting industries fight steel scarcities in Canada.

The Government distributes this steel, roughly equivalent to about one million ingot tons a year in various fabricated states, strictly on the basis of essentiality and need. Once Washington eliminates CMP, of course, Canadian industry will be free to scramble for U.S. steel as it did before Korea.

Canadian steel production is rapidly expanding. Steel mills currently are producing about 3.2 million tons a year, and by mid-1952 this is expected to jump to almost four million tons annually.

Tax Brake on Building Expected to Ease Soon

Another easing of anti-inflation brakes is expected shortly. Ottawa indicates that deferred depreciation regulations imposed early in 1951 are to be either wiped out or modified considerably. At present, business firms cannot claim for income tax purposes depreciation on certain classes of capital assets acquired or on certain types of new construction

(Continued on page 34)

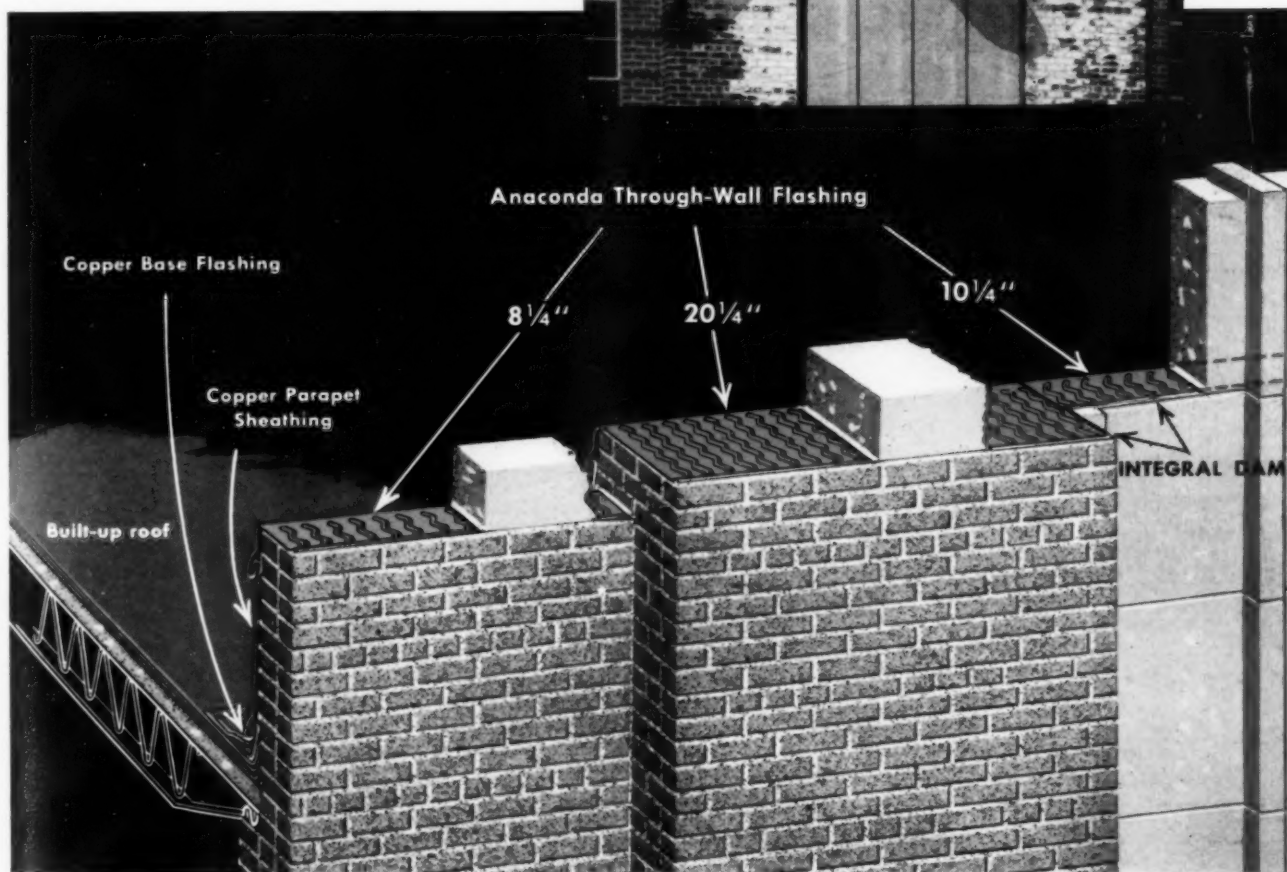
Use copper wisely

How to prevent "white stain" due to coping seepage

UGLY? Yes, and it may also be a sign of more trouble to come. Mineral salt deposits on the surface often indicate moisture within the walls. Water entering through shrinkage cracks in the vertical joints of the coping, plus that absorbed by the parapet, seeps downward. One result is shown. Another of more serious consequence is the damage to interior walls and ceilings. →



↓ **A REMEDY:** Through-wall flashing installed as detailed below.



ANACONDA Through-Wall Flashing does a better job. Its zigzag corrugations and preformed dam assure drainage in the right direction—toward the roof. The corrugations embedded in the mortar prevent lateral movement in any direction. The flat selvage bends without distortion to form a neat counter flashing.



DETAILED DRAWINGS, such as this, of new or improved ways to apply sheet metal are yours absolutely FREE. Write for Portfolio S, The American Brass Company, Waterbury 20, Connecticut.

Standard types for 8" and 12" walls are available. Special sizes may be ordered with variable widths of corrugations and selvages up to an over-all width of 47". One-piece corners for 8" and 12" walls are also standard. For complete information and suggested specifications—write for ANACONDA Publication C-28.

5242

for better through-wall flashing—
use **ANACONDA**[®] copper

THE RECORD REPORTS

CANADA

(Continued from page 32)

begun after April 10, 1951, until four years later.

Intention of the order was to slow down the demand for building materials by non-essential enterprises. The supply of steel in particular has now improved



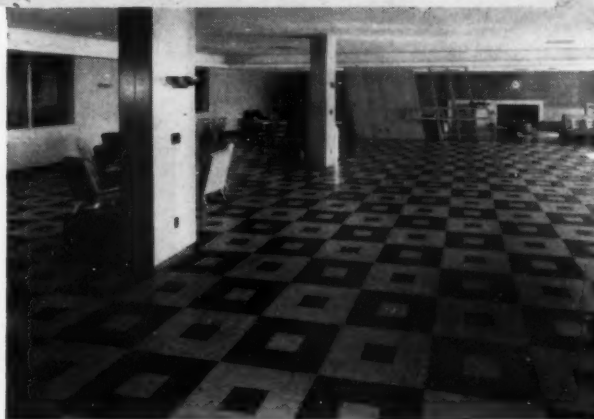
Grant Baptist Memorial Church, Winnipeg, Man.; Green, Blankstein, Russell & Associates, Architects

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* Youth Center, of new Shorewood H. S., Shorewood, Wis. Hillyard Floor Products used: Super Shine-Ail, Super Hil-Brite, Super Hil-Tone.



Architects Grassold and Johnson specified *approved* Hillyard products for functional beauty and safety of asphalt tile floor—for serviceable wear through the years. *Professional men demand the best—get the best—when they seek out Hillyard floor treatments*—the specialized care in accepted use on the finest floors in the finest buildings across the nation.

Consider the HILLYARD Floor Expert as "on your staff • not your payroll"

Busy specifiers count on the Hillyard Maintainer for accurate and labor-saving information on floors. His extensive training and wide practical experience are as near as your phone. No charge for his services.



* Approved by flooring manufacturers

A Treatment for Every Floor



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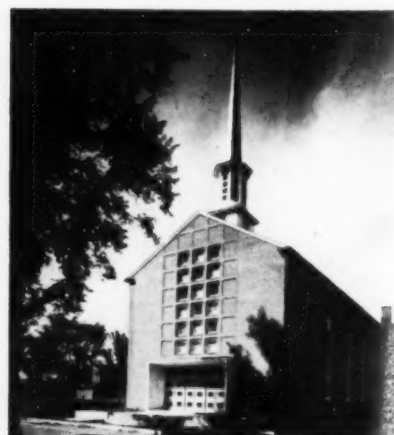
enough to permit either removal or modification of the regulations.

More Money, Fewer Units: Housing Loans Show Gain

Loans approved for new housing during the first seven months of 1952 in Canada by insurance, loan and trust companies totaled \$157 million, the Dominion Mortgage & Investment Association reports. For the same period in 1951 the total was \$146 million.

The higher cost of new housing and the larger loan available is noted by the fact that the number of housing units financed during this period this year was 23,200 as compared with 23,300 last year. The average for this year for each unit was \$6767 as compared with \$6267

(Continued on page 36)



This building for the Lawrence Park Community Church in a Toronto suburb was recently opened. Architect: Gordon S. Adamson of Toronto

VERSATILE *Acme* EVAPORATIVE CONDENSERS

fit wide range of
applications



The First Church of Christ Scientist in Birmingham, Alabama.

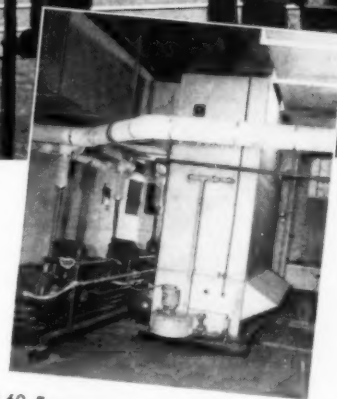
Two recent installations of Acme Evaporative Condensers show the wide range of applications for which they are ideally suited. The ability to conserve water makes the operation very economical, while the functional design assures complete hot weather comfort.

One installation was made in the First Church of Christ Scientist in Birmingham, Alabama, by the Hardy Corporation. The main auditorium seated 650 persons and a Sunday School room accommodated 148 more. Despite the variable load and Birmingham's hot climate the FP-60 Acme Evaporative Condenser has been highly efficient and completely satisfactory.

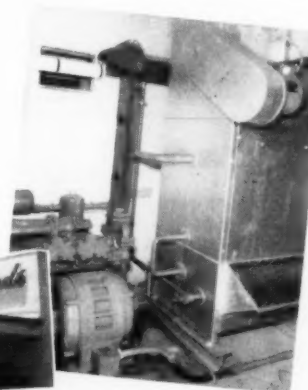
A completely different installation was made by the Krauss Heating and Ventilating Company, at the Gulf Winds Restaurant in St. Petersburg, Florida. An FP-30 evaporative condenser serving as an important component of the air conditioning system, was installed.

The air conditioning added much to the comfort of the patrons of this beautiful restaurant. Despite the unusual hardness of the water, the equipment is satisfactory in every respect, saving over 95% of the water used.

Write for more complete details on the advantages of Acme Evaporative Condensers



FP-60 Evaporative Condenser installation at the First Church of Christ Scientist.



FP-30 Evaporative Condenser installed at the Gulf Winds Restaurant.

The Gulf Winds, popular St. Petersburg, Florida restaurant.

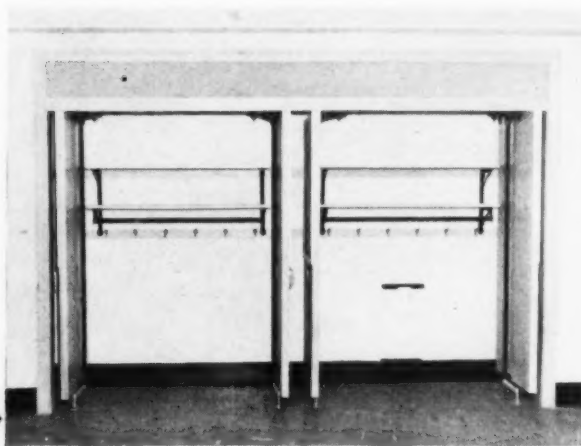


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Air Conditioning and Refrigeration Division

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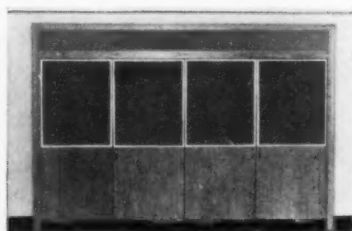


Model 400 Single Operating Receder With Hanger Rod Installed at Northeast School, Montclair, New Jersey. Starrett & VanVleck & Reginald E. Marsh, Architects; Glenwal Co., Inc., Contractors; Atkins & Co., EMCO Agents.



CLASSROOM WARDROBES

**EMCO wardrobes mean you need not compromise
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Model 400 Showing Doors Closed.
Equipped With Bulletin Boards.

The EMCO line is a complete line offering both Receder and Pivoted wardrobes and in multiple operation as well as individually operating doors.

For foresighted planners, classroom fundamentals extend even to the room's wardrobe. EMCO eliminates any compromise with the fundamentals of wardrobe planning. *First*, clearance below doors is right for ample ventilation and very quick cleaning. *Second*, no hardware protrudes on floor of recess to trip a child. *Third*, doors move easily, silently and are adjustable for alignment should settlement occur in floors or jamb. *Fourth*, and very important, *EMCO guarantees its installation for the life of the school in writing and backs up this guarantee with service by local factory representatives.*

The world's most copied wardrobe is EMCO—but EMCO's quality features cannot be copied—so be sure of quality by specifying EMCO. Prices are competitive with all others.

Wardrobes Are Our Business — Not A Sideline
EQUIPMENT MANUFACTURING CO., INC.
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Get details on EMCO's disappearing pivot arm which gives unobstructed recess. Also latch feature for open and shut position.

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|---------|-------------------|
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| Name | _____ |
| Address | _____ |
| City | _____ State _____ |

THE RECORD REPORTS

CANADA

(Continued from page 34)

in 1951. For new single dwellings the average loan was \$7801 as compared with \$6797 last year.

Permafrost Building Problems Studied by Research Council

Field study of some building problems created by permafrost has been started by the Division of Building Research of the National Research Council. A small experimental permafrost research station is now being established at Norman Wells, N.W.T., with the cooperation of Imperial Oil Ltd., which operates a small oil field and refinery at this far northern outpost on the Mackenzie River just south of the Arctic Circle.

Permafrost is the name given to ground which is always frozen to great depths; it presents many problems in the northern half of Canada. If the ground consists of soil, the soil will thaw out during the heat of summer to a depth of a few inches. Usually such soil is covered with muskeg and this acts as an insulating blanket, preventing summer heat from penetrating very far. If this surface cover is removed, as it must be for many building operations, conditions are immediately changed. The permafrost will be thawed to much greater depths and so may release a lot of water which often causes trouble in road construction and in the foundations of buildings.

Such problems constitute one of the main groups of peculiarly Canadian building problems which the N.R.C. Division of Building Research has been studying. Present activity in the Canadian North lends urgency to the solution of permafrost building problems. For two summers, the Division has participated in field studies of permafrost in the Mackenzie River Valley. On the basis of these investigations, Norman Wells was selected as the most suitable location for the start of actual field research. J. A. Pihlainen, a graduate civil engineer, is in charge.

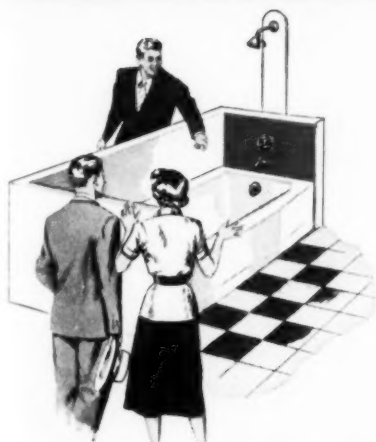
It will be some time before the first results of the experiments will be available, since the research is completely dependent upon the climate. A start has been made, however, and Canada now has one of the most northerly building research stations in the world.

KOHLER COSMOPOLITAN BATH

combines fresh beauty,
convenience, safety



Cosmopolitan enameled iron recess bath, K-535-F



The clean-cut design that gives the new Cosmopolitan grace of form and proportion also contributes to ease of cleaning, convenience and safety. A wide rim forms a useful bench, the end slopes for comfort, and the bottom is flat and wide. Kohler lavatories and other fixtures for bath and washroom match in style and quality.

The lustrous, glass-hard Kohler enamel is fused to non-flexing iron, cast for strength and rigidity.

The Cosmopolitan is available in the standard 5-foot length, and also 4½ and 5½ -foot lengths. Width is 33 inches at center; height is 16 inches from floor to rim.

Chromium plated fittings include the Niedecken mixer, serving both bath and shower, for simplified control of water temperature.

Kohler Co., Kohler, Wisconsin. Established 1873

KOHLER OF KOHLER

PLUMBING FIXTURES • HEATING EQUIPMENT • ELECTRIC PLANTS • AIR-COOLED ENGINES • PRECISION CONTROLS

**INDUSTRIAL EXPANSION:
ODM LOOKS AHEAD***Non-Defense Building Needs
Are Also Recognized*

WILL THIS COUNTRY continue to expand its industrial base extensively in the months ahead?

With many of the initial expansion programs in the Korean emergency situ-

ation now being realized, and with courses for others charted well into the future, this question will have to be answered soon. And the decisions will have strong import for the architect and engineer whose work includes heavy commercial and industrial work.

Much of the seventh quarterly report of the Office of Defense Mobilization has been devoted to discussing this topic.

The report referred to studies now in

progress to determine the "wartime need" for antifriction bearings, turbines for naval vessels, hydraulic presses, heavy steel and aluminum castings, heavy forgings, heavy steel plate, various forms of aluminum needed for aircraft and specialized refinery equipment, making aviation gasoline. These are fields in which it might be decided further expansion of production facilities is needed.

Goals already have been set for the specialized facilities required for production of military-type power cranes and shovels, crawler-type tractors, tapered aluminum sheet, electrical connectors, specialized electric motors, specialized copper wire products and precision optical equipment.

Shun Government Building

ODM explained that as studies of specialized industries are completed, findings will be referred to the industries concerned.

Construction of facilities for producing highly specialized equipment presents the problem of attracting investment capital. ODM realizes that such facilities would not be fully used, and therefore not be as profitable, before and

(Continued on page 294)

**BRIGHT
NEW
STYLING**

combines with

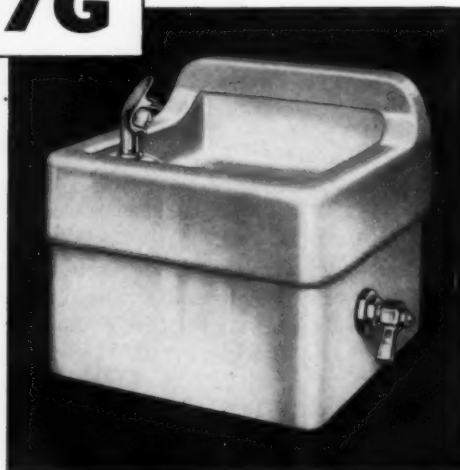
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LEADERSHIP**

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at work, at school or play ... look to and recognize HAWS Drinking Fountains as an always dependable source of refreshing, sanitary drinking water. And have since 1909. This newest model in the complete HAWS line ... beautifully achieved in highest quality vitreous china ... is now available for your next specification.



A detailed specification sheet of the HAWS Model No. 7G will be sent to you upon request. You'll want it in your file.

HAWS

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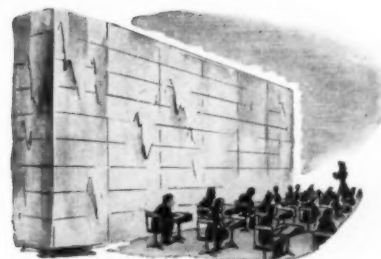
1443 FOURTH STREET • BERKELEY 10, CALIFORNIA



Rufe B. Newman, former head of National Production Authority's Construction Controls Division, who has been appointed chief of the Facilities and Construction Bureau of NPA. Stephen W. Burns, who has been deputy director, has been named director of the Construction Controls Division to succeed Mr. Newman.

**Like all good stories
this one has *conflict...solution...*
and a *happy ending***

(READING TIME: Four minutes—and worth it.)



In very cold weather large window areas become a "wall-of-ice" in the classroom.

COMFORT in the Schoolroom

—Nesbitt Wind-o-line solves the problem of *heat loss* logically with a *heat gain* where and when needed. Convected currents of warm air from the grille temper the cold downdraft and divert its flow upward and above the heads of the room occupants. Radiation from the casing or cabinet helps to balance the radiant temperature differential.

"Happily ever after"

For school officials, architects and engineers who have a personal interest

in Thermal Comfort the story turns out well: NESBITT SYNCRETIZED AIR—with Wind-o-line Radiation where desired—a *symmetrical* environment in which room-air and surface temperatures are better related to bodily heat exchange for a classroom comfort unequalled by any other system.

This is the story up to now. If it is ever to have a sequel, NESBITT expects to write it!

JOHN J. NESBITT, INC., STATE ROAD & RHAWN STREET, PHILADELPHIA 36, PA.



The Nesbitt "thermal blanket" protects pupils from the cold window downdraft.

A cut-away view of Wind-o-line Radiation, and photograph of a typical installation.



The Nesbitt Syncretizer, Wind-o-line Radiation, and The Nesbitt Package are made and sold by John J. Nesbitt, Inc.; sold by American Blower Corporation.

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Please send me publications describing the Nesbitt Syncretizer and Wind-o-line Radiation.

Name

Address

City..... Zone..... State.....

REQUIRED READING



Three illustrations from the Cleveland book on photography. Left: Burton Schutt, architect; right: A. Q. Jones, architect; below: Thomas Threurkauf, designer



Robert C. Cleveland

PHOTOGRAPHING HOUSES

Architectural Photography of Houses: How to Take Good Pictures of Exteriors and Interiors. By Robert C. Cleveland—*An Architectural Record Book.* F. W. Dodge Corporation (New York, N. Y.) 1952. 8 $\frac{3}{4}$ by 11 $\frac{5}{8}$ in. 170 pp., illus., \$7.50.

REVIEWED BY JAMES S. HORNBECK, A.I.A.

HERE, for the first time, is a book for architects, photographers and decorators that explains in detail how to take interior and exterior pictures of a house. Since the literature of photography is heavily overbalanced towards technical information on equipment, materials, processing and techniques, this writer avoids the all too common *what-film-and-developer-do-you-use* approach to the subject. Instead, he offers a clear exposition on what to photograph and why—how to do it most effectively by judicious camera location and lighting—shows by actual comparative examples how a shift in viewpoint can improve a picture. There is also an interesting explanation of how a series of photographs of a house can be brought into visual unity by a method of landmark keying which the author calls *room orientation*.

The first section of the book consists of chapters on procedure, camera angles, height of camera, orientation, lighting, indoor-outdoor views, dressing the scene, and taking architectural photographs with a small camera. Next is a seven-chapter section called *A Portfolio of Rooms*, which devotes an entire illustrated chapter to each of the typical rooms in a house and explains how to cope with the special photographic problems each area presents. The book's concluding chapter deals with making a set of photographs of the entire house and discusses a method of planning the sequence of shots in order to produce a series of views logically chosen and visually effective.

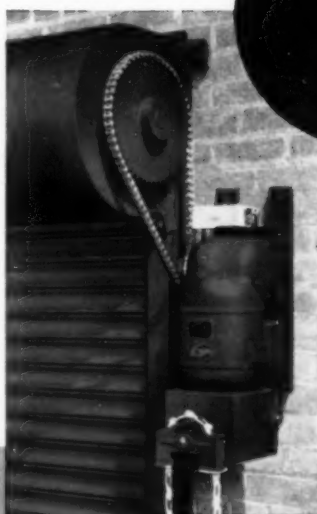
Each chapter starts with a short text which continues in caption form to point up the lessons in the illustrations. The volume contains some 325 sparkling examples of residential photography, all made by the author. The pictorial quality of the book should appeal to prospective home owners, who will find many ideas for interior decoration con-

(Continued on page 46)

Rolling Steel DOORS



MAHON
CHAIN-GEAR
OPERATOR



MAHON STANDARD
POWER OPERATOR 920-P

Manually, Mechanically, or Power Operated

The vertical, roll-up action of a rolling steel door makes it ideally suitable for use where, in many cases, no other type of door would adequately meet the requirements. Quick opening, quick closing Rolling Steel Doors occupy no usable space either inside or outside the opening . . . they create no overhead obstructions above the floor—cranes may be employed to handle materials adjacent to the door opening. All-metal construction of Rolling Steel Doors provides permanence, greater protection against intrusion and fire, and assures you a lifetime of trouble-free service. When you select a rolling steel door, it will pay you to compare the manufacturer's specifications as well as the price tags . . . you will find that the hot-dipped galvanized curtain slat material that goes into Mahon Rolling Steel Doors is chemically cleaned, phosphated, and treated with a chromic acid solution to provide paint bond, and that the protective coating of synthetic enamel is baked on at 350° F. prior to roll-forming. This is just one of the extra value features of Mahon Rolling Steel Doors. See Sweet's Files for complete information including Specifications, or write for Catalog G-53.

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Manufacturers of Rolling Steel Doors, Grilles, and Automatic Closing Underwriters' Labeled Rolling Steel Doors and Fire Shutters; Insulated Metal Walls and Wall Panels; Steel Deck for Roofs, Partitions, and Permanent Concrete Floor Forms.



ROLLING STEEL DOORS, SHUTTERS AND GRILLES TO MEET EVERY REQUIREMENT

MAHON

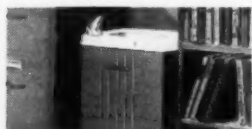


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G-E Work Center Plan for Water Cooler Placement offers a new formula for quick, easy check of your own water facilities

This plan brings new information on the selection and placement of water coolers. Based on a recent General Electric study of efficiency in drinking water layouts, it tells you how to locate water coolers to cut wasted man-hours and save payroll dollars year after year.

Whether you are planning new construction or merely wish to analyze your present facilities, the G-E Work Center Plan gives you the answer. Send the coupon for your copy of the free booklet which will help you determine exactly how many water coolers are enough for you.



FITS ALMOST ANYWHERE—All models take less space than an ordinary office chair.



ANGLE-STREAM, NON-SQUIRT BUBBLER—Avoids water dripping back. Slotted nozzle.



DIAL THE WATER TEMPERATURE—Control knob easily reached, concealed against tampering.

You can put your confidence in—

GENERAL  ELECTRIC

FREE! Illustrated booklet giving savings table, 5-step method, and typical floor plan.

GENERAL ELECTRIC COMPANY, SECTION AR-4
AIR CONDITIONING DIVISION, BLOOMFIELD, NEW JERSEY

I am interested in learning more about the G-E Work Center Plan.

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ADDRESS.....
CITY.....ZONE.....STATE.....



REQUIRED READING

(Continued from page 46)

tained in its illustrations and explained by the captions.

The author, Robert C. Cleveland, is a well-known West Coast photographer of architecture whose work is regularly published in both architectural and consumer periodicals.

HUMANITY VS. INDUSTRIALISM

Creating an Industrial Civilization: A Report of the Corning Conference. Edited by Eugene Staley. Harper & Brothers (49 E. 33rd St., New York 16, N. Y.) 1952. 5 1/2 by 7 3/4 in. 368 pp.

These provocative discussions of the effects of industrialism on human beings—the product of the opinions of some 100 distinguished participants with widely varying viewpoints—were held at Corning, New York, in May 1951, under the auspices of the American Council of Learned Societies and the Corning Glass Works. The conference was only two days long and resulted in no dramatic action or resolutions, but thanks to an intelligent job of editing the ideas developed or ineptly have been preserved in a form that may make them the basis of other discussions and future conferences.

In individual round table meetings delegates from such diverse fields as art, architecture, business management, education, government, organized labor and the press—to mention only the most obvious—considered the various aspects of human values in relation to industrial civilization. Some typical questions were: What values determine satisfactions of work? Must leisure be used for self-improvement? What advantages can the American type of industrial civilization offer other countries? What has happened to our sense of community? Has modern man lost confidence in himself and the universe? Perhaps the outstanding characteristic of these meetings was the conscientious effort of the participants to abandon clichés and stereotypes and to achieve objectivity. Margaret Mead, the anthropologist, was “amused with the effort to prove that business and the academic world don’t understand each other.” “I’ve never,” she declared, “seen fewer signs of people not understanding each other.”

The conclusion of the conference, however, was that the need was not for

(Continued on page 358)

SCHOOLS

Until recently we have emphasized elementary school buildings. We have only begun to satisfy needs, and we must continue to hunt ways to hold down construction costs. That is the subject of Part II of this study. Part I, below, deals with the emerging philosophy of secondary education and the buildings required

ARCHITECTURAL
RECORD'S
BUILDING TYPES
STUDY NO. 192

I: THE NEED FOR NEW SECONDARY SCHOOLS

THE EDUCATIONAL PROGRAM IN 1963

*By Archibald B. Shaw,
Superintendent of Schools, Scarsdale, N. Y.*

NOBODY knows for sure what the high school's program will be in 1963, to say nothing of the twenty years beyond for which today's secondary school plants must be designed. But every competent observer will testify that it will be different — and will get more and more different — from what's going on now in the overcrowded, out-moded high schools which must be replaced.

To become a competent observer is no great trick. It is required only that one think back to the high school program he knew twenty-five or so years ago, probably in a building even then obsolescent. Try to look farther back, even, than graduation time; back to the much larger class that entered high school out of a still larger group that had finished grammar school. Then rush off to the nearest secondary school and compare.

Changes? Yes. The relative numbers entering and graduating, the size and constitution of the population segments attending, the curriculum, the organization, the guidance program, and the very atmosphere are all different. And the odds are heavy that further change is visibly in process.

There are signs all over the country that support this view. Dissatisfaction with yesterday's program, designed for the few and modified seemingly at random, has led to "Life Adjustment," "Core Curriculum,"

"Common Learnings," and "General Education" programs, evolved principally by educators in an earnest effort to meet the needs of today's youth and today's America.

It is no longer only the educators, perhaps not even primarily the educators, who foresee and are working for change. The concatenation of circumstances is arousing parents and citizens generally to a concern for and a critical re-appraisal of our secondary school program. Linked with the staggering growth in high school enrollments so soon to be upon us are continued inflation, enormous tax burdens, and the resurgence of widespread concern for our moral and spiritual values, and for the strengthening and preservation of our American heritage and ideals in a troubled world. Each of these circumstances must have an impact on the secondary school program, an impact that goes beyond the mere adding of a "subject." There simply is not room for another subject — the curricular seams are already bursting. The school day isn't nor can it be long enough to include everything that every group would have taught. Value judgments have to be made, willy-nilly, and concerned communities are at last finding ways, are being invited, to participate in those judgments.

But it is not enough to predict change, valuable though that is for a starting point. Plants must be built on more specific programs and trends. Educational progress over the nation being slow and very uneven, it is possible to find in a survey of today's schools not only the practices of the last half-century, but invaluable clues to what may lie

ahead. The literature of secondary education gives further clues — presenting what amounts to a consensus in many important areas of the program and organization.

What All Should Learn

In the matter of curriculum there is pretty general agreement that there are certain common needs both of all youth and of our free American society which must be taken into account in the secondary school program. For convenience the program provisions for these needs will be referred to as *common learnings*. Perhaps a full half of the individual's program in his secondary schooling will be allotted to these common learnings.

One of the major portions of the common learning program is the development of language and communication skills. Writing and reading, speaking and listening are important to all. The clear thinking and lucid expression so essential in our interdependent society demand skill in the use of written and oral language. Also included will be skills in the many kinds of reading, in type- and handwriting, in spelling and language construction, in vocabulary selection, in effective speaking and in intelligent listening.

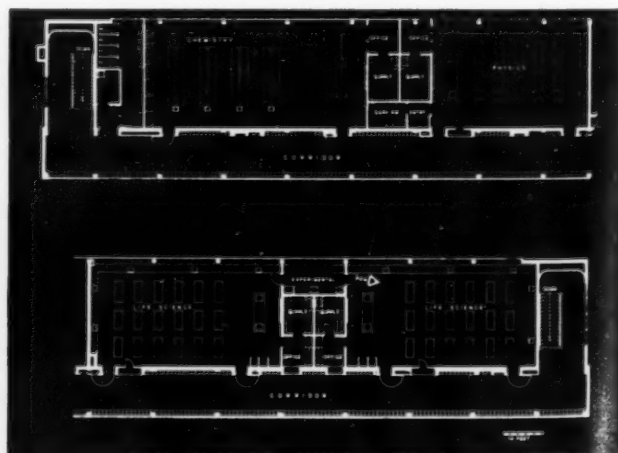
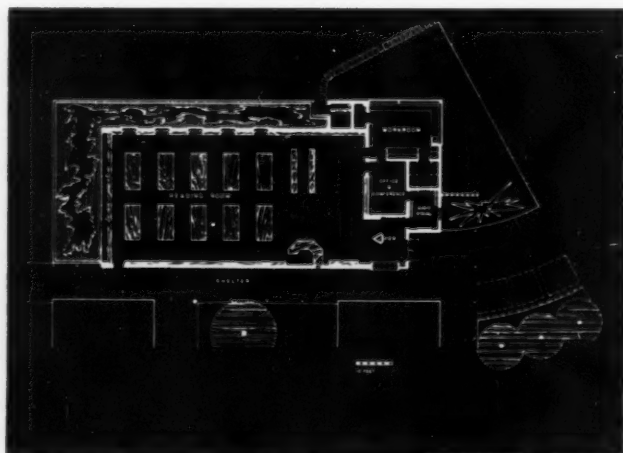
A second large portion of the common learning program is the development of understandings and appreciation of our common heritages. This is history, expanded to include the cultural, economic and social heritages. Attention is given not only to man's deeds, his organizations and institutions, but also to his aspirations, the whole complex of his developing relations with his fellows, his world and his God.

The third part of youth's common needs is his equipment for and understanding of the current scene, the world of today and the so-imminent tomorrow. In this portion of the common learnings program he develops those skills and understandings in mathematics and the sciences which are essential to the voting, producing and consuming citizen. He learns the machinery of government, the responsibilities and opportunities of political citizenship, the obligations of a good citizen in his community and in his non-governmental associations, some basic economic principles and something of family and home responsibilities. He must develop a decent respect for the other fellow's and his own rights, safety, and convenience.

There are other areas of knowledge, other skills and attitudes which are common needs of all youth and society and which are appropriate to the public secondary school. But these above are quite generally agreed upon — and are meant here to be suggestive rather than definitive.

Specialized Training

Individualization of program comes in pre-vocational and vocational education which takes the second major place in the school program. Here the wide range of aptitudes, interests and abilities of youth and of the vocational opportunities and needs of society are served. For some, more advanced mathematics, the sciences, modern and ancient languages, and some or all of the many facets of what is loosely called "English" in today's schools will be appropriate as pre-vocational or pre-professional learning. For others the food laboratories, the shops, the farm, or



Willow Glen High School, San Jose, Calif.; Marsh, Smith & Powell, architects. Above are plans showing typical small units of which this extremely large secondary school is composed

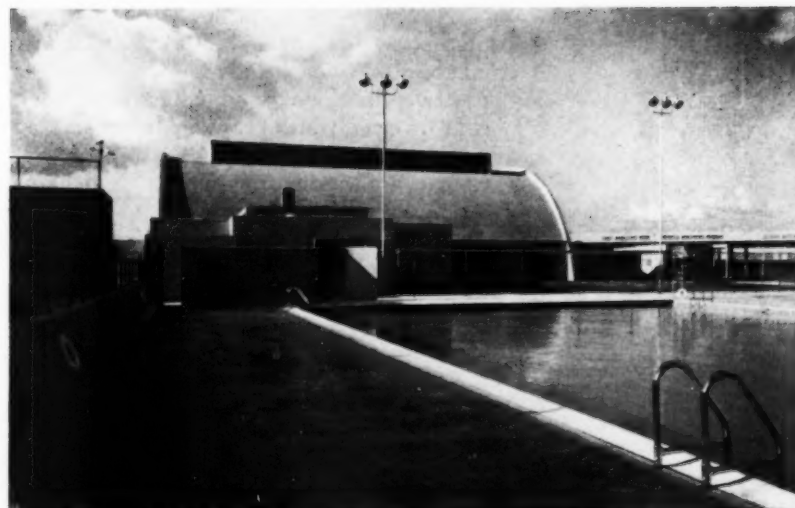
the business training will serve. Advanced musical, art or dramatic training will meet other needs. So will millinery, tailoring, design, or beauty culture. The list is long and will vary from community to community and as technology, commerce, and industry themselves change. But all these activities have in common the fact that they meet the differing educational and vocational needs of youth and society.

Individual Development

The third aspect of the educational program is developmental. Under this heading are found all those learnings that have been associated with the best programs of physical education and what have been called co-curricular activities. Spectator sports will continue to have a role — perhaps even a pre-vocational role for some. Healthy team and individual competition will continue, but the emphasis is shifting steadily to participation by all. Highly organized sports will still appeal to the particular social, psychological and physical needs of many adolescents, but they will co-exist with informal sports requiring little organization which can remain valuable recreational activities throughout the later years.

Inspiration and student "community" are so important as to merit a special word although, like guidance, they are largely implicit in other situations. Class and school assemblies, in and out of doors, which rise out of other program activities are very valuable for these ends.

Guidance, too, needs but a few specific program provisions. It rests on personal ac-



Fred R. Daprick

INFORMAL SPORTS NEEDING LITTLE ORGANIZATION

Fishing, recreational swimming and boating are examples. So are skiing and skating. Golf, tennis, paddle-tennis and badminton for out-of-doors, bowling, handball, and table tennis indoors. Hiking, outdoor cooking, camping and gardening are valuable learnings. Dancing—folk, creative, square, and round. Music—individual and group, vocal, instrumental, and just listening. Dramatics—traditional and

elaborate, in-the-round, extemporaneous, stage and studio. Clubs. Publications. Broadcasts and telecasts. And on through a list as long and varied as the plant, site, neighborhood and community resources will permit. But always including centrally a program of student self-government adjusted to the needs and readiness of the students, as vital to the school's program for building participating citizenship.



At left, air view; top of page, swimming pool, both of Willow Glen High School. Economy of construction and the demand for a tremendous variety of subjects have forced us, many times, to "consolidate" districts and buildings. Willow Glen is an excellent example of the trend away from the too impersonal, monumental structure which has sometimes resulted, toward the human scale of what is called the campus plan

quaintance, on availability of adequate diagnosis and counselling resources for the physical, emotional, and educational well-being of each youth. It is in large part an individual function.

There are service functions such as lunch with nearly inseparable educational implications. Educational considerations and growing awareness of the needs of adolescence lead to the canteen, snack-bar, smallish dining-room approach.

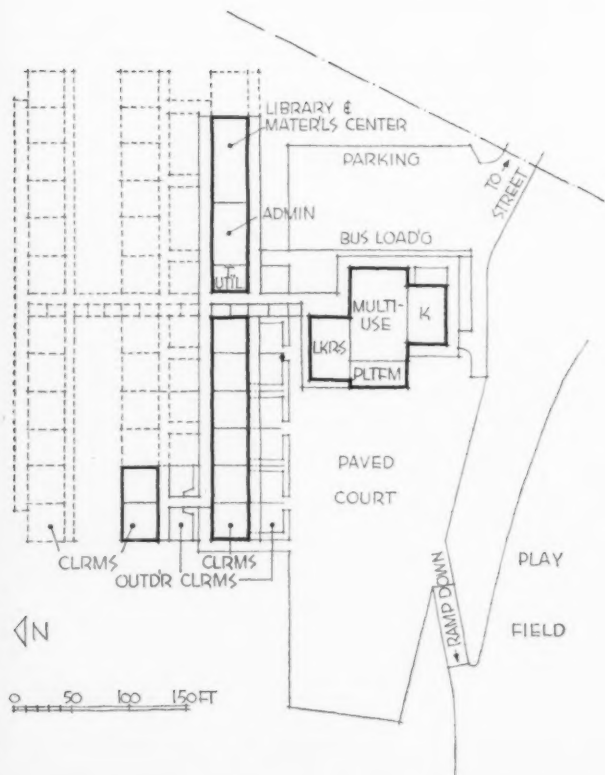
Left for last, since like plant design they exist only to serve the needs of the students and their program, are organization and administration. Both are highly important to the success of the educational program and of crucial concern in good plant design. The common dilemma is easily recognized. On the one hand, the very wide range in pre-vocational and vocational needs of the increasingly broad segment of school-age youth seems to demand not only for economy but for effectiveness either the bringing together of extremely large numbers of students, or some artificial segregations, according to probable vocational goals or other criteria. On the other hand, many have come to decry the de-personalized institutionalism that is so real a danger in schools of a thousand or more students, or the dangers to democracy in any such youth segregations as are implied in Vocational School, Classical High School, etc. Similarly the large school seems capable of providing a richer diversity of social and recreational opportunities; yet guidance, in-

spiration, and even teaching seem inevitably to suffer and individuals become more easily lost in the mammoth institution. And the very nature of the common learnings program demands close association of students with fellow-students with teachers in groups small enough and with continuity prolonged enough for exploration of needs and abilities and of individualization of instruction.

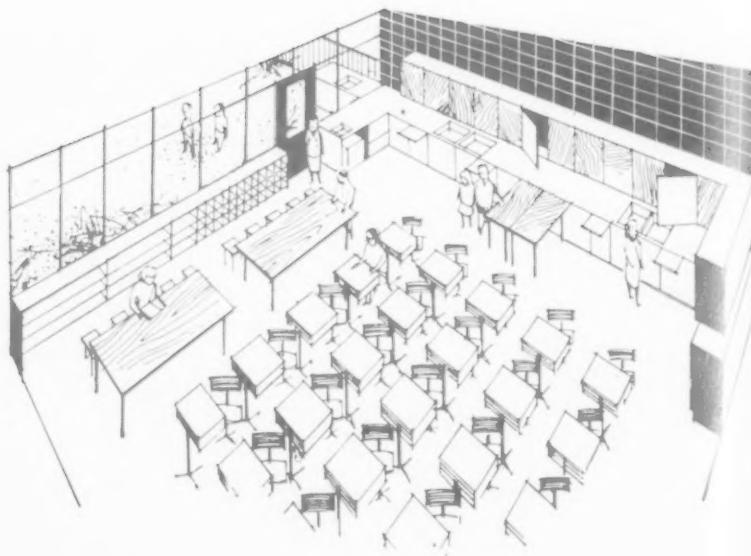
As we have gradually come to know something more about adolescents we have discovered added complications. The adolescent is a solitary, a buddy, a "gang" member and a loyal member of a larger community — not all at once, to be sure, but in rapid and nearly unpredictable succession.

These seemingly incompatible demands on organization are being met in some schools, somewhat inadequately still, through a modified "house" plan for the common learnings and guidance functions. This plan calls for students and faculty to work together in smaller sub-divisions of the school for most or all the years in secondary school. Students from all "houses" mingle and redivide for the varied pre-vocational and vocational programs. The social developmental program is accessible to all and is organized for the smaller or larger groups as the activity demands. Finally, the very necessities of cross-accessibility are skillfully exploited to provide the opportunity for solitude, for buddy-ing, and for small group association.

Enough has been done here and there by program and plant planners (or by inad-



SEVENTH AND EIGHTH GRADE



vertence!) to justify optimism. The problems are not insoluble. They are, however, challenges to the boldness and inventiveness of educational planners and architects.

Nobody knows what the high school's program will be in 1963. Some clues, some trends are discernible. Competent observers aren't enough. Neither are educated guesses. But the people of a community, enlisting wise leadership and professional skill and vision, will face the problems and shape answers. There is no formula nor blueprint. The secondary school program of 1963 will be what the concerned and effective community wants it to be, and knows and cares enough about youth and society to make it.

IMPROVING SECONDARY SCHOOLS

By John Lyon Reid, A.I.A.,
San Francisco, California

THE ARCHITECT evaluates schools with reference to two criteria: how well do they solve the plant problems of the educational program, and are they good architecture.

I am first interested in criterion number one. In few other building types are program and solution so interdependent. A school plant, i.e. building, site and equipment, is planned by the architect to function as an instrument of education. The educational program, then, requires first consideration by any architect who is concerned in the form

and purpose of future school buildings. Although a poorly conceived program can be effectively solved in architectural terms (or the reverse) the ultimate result falls short of its potential contribution. It can do so only when a soundly conceived educational program is housed in a plant which powerfully assists in attaining the educational objectives. School planning at its best is the result of a cooperative effort between educator and architect which has been conducted with sympathy, understanding and skill; it can't be otherwise.

The role of the architect is to place his professional skill and experience at the service of the educator; it is not the prerogative of the architect to question or dispute the educational program, but to plan for it, right or wrong. It is with some hesitation that I, an alleged architect, comment on educational policy.

One of the most successful teaching programs in the educational field today operates at the kindergarten level. There, the developmental needs of the child are met directly; subject matter is from day to day adapted to the learning experiences of the child. The child is more important than the teacher.

At the other end of the line, in the secondary school (disregarding problems of the university), we do not find the learning needs of the student solved with the same directness and simplicity. Problems are infinitely more complex, and subject matter becomes more specialized. The growing maturity of

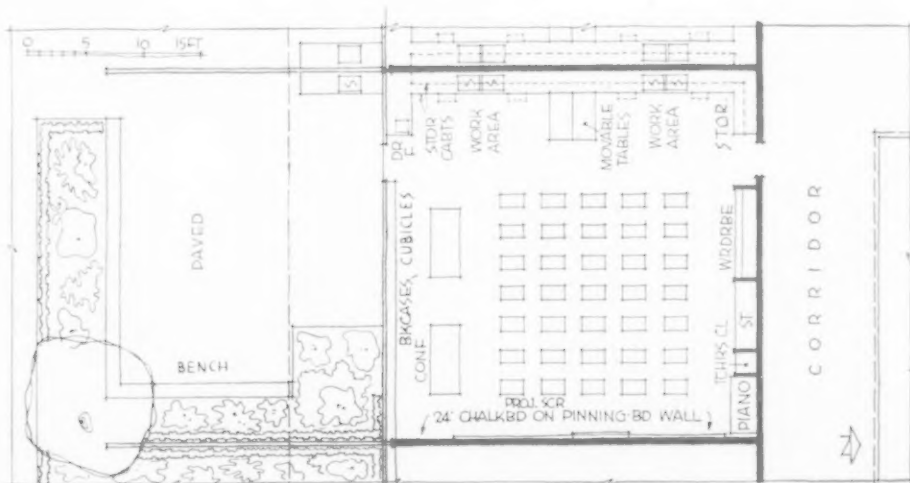
Not strikingly different outwardly, Tierra Linda School represents a distinctly changed concept. All subjects except music and physical education are taught within the home room: home making, science, light shop, arts and crafts, plus more academic subjects. This necessitated large classrooms (32 by 32 ft), much cabinet and work equipment, some of it in the outdoor classroom adjoining, all designed for utmost flexibility in arrangement to accommodate varying groups of students. Very important was provision of maximum possible tack space, achieved by covering end walls clear to ceiling with cork tile, for maps, murals, etc., made by students. Note also the "materials center" (see next page)

SCHOOL DESIGNED FOR THE NEW PHILOSOPHY

JOHN LYON REID, Architect

BURTON L. ROCKWELL,

Associate



Now under construction, Tierra Linda School, San Carlos, Calif., was specifically designed for one development of the type of program presented in Mr. Shaw's article. Its curriculum,

transitional between elementary and four-year high school, resulted from more than a year of teacher-educator conferences. Construction cost: \$14.84 per sq ft, not including site work

1: SECONDARY SCHOOLS

Below, model made to demonstrate principles evolved during design of Tierra Linda School; materials center at left contains, stored on movable carts, all special materials and equipment, such as audio-visual, food preparation, tools, science materials and kits. These are taken to classroom by teacher as needed. In center, library for student use, for special books, reference material not in classrooms. Workroom between is shared by library and materials center. Classroom at right was not built in this location; all rooms, exterior walks, etc., are on one level or connected by ramps for ease in moving carts

the student brings with it an ability to choose and pursue interests educational, social and recreational. Highly competitive sports, with their important school plant implications, have not always served the athletic needs of the majority of students.

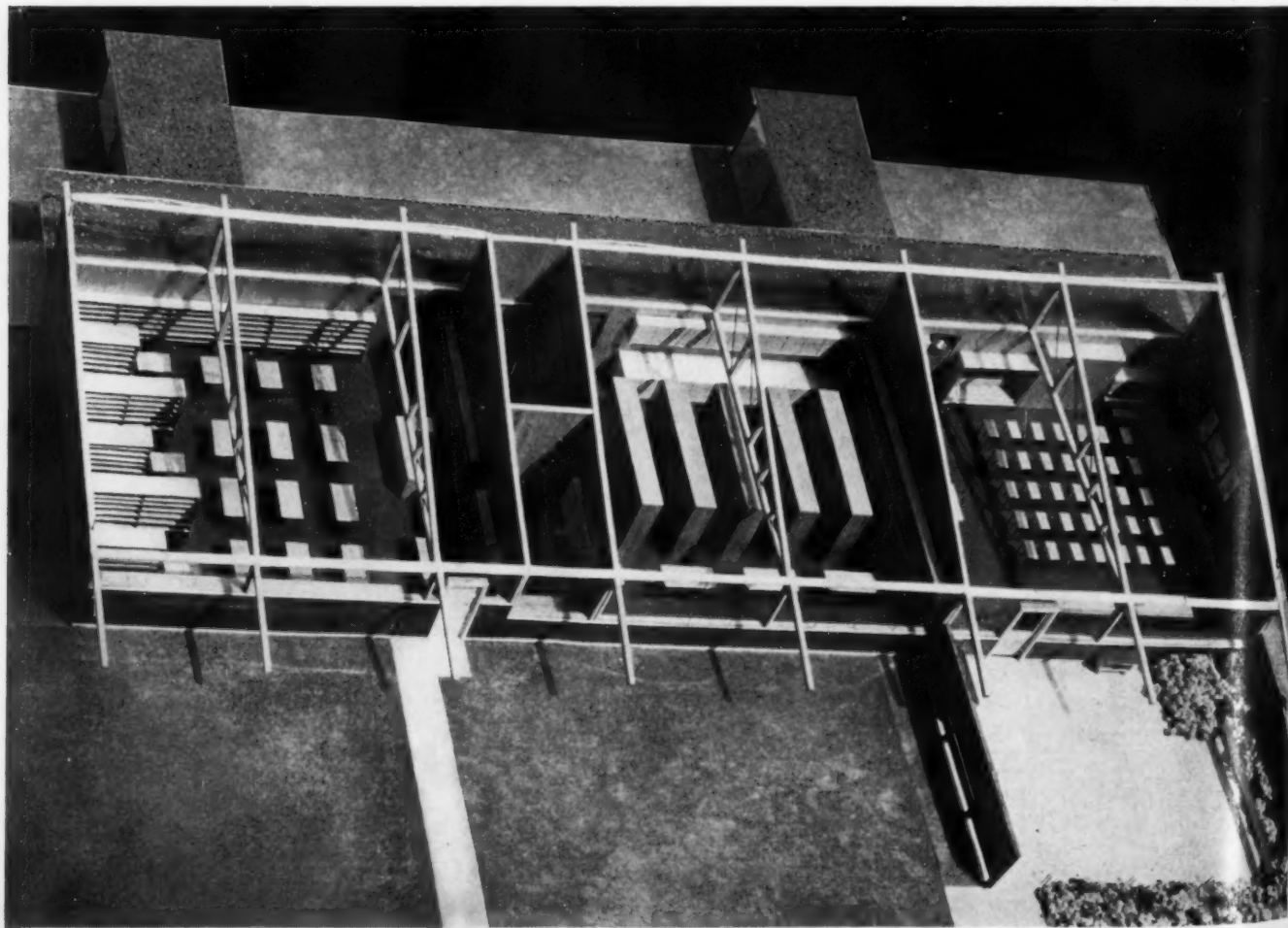
The problem in secondary education is to provide a framework in which all learning experiences can be synthesized in a meaningful whole. And just how is it to be done? This is a convenient time for architects to withdraw and let educators answer the question. For years they have been thoughtfully probing the secondary program. The design and construction of elementary schools have claimed the interest and attention of both professions since the war. But our increasing numbers of children will soon enter the secondary schools and the program pronouncements of educators will have great meaning, I think, for architects. A tremendous building program for secondary schools is in prospect; our success with it will depend on how well educators get their ideas across to architects, and on how well architects can give form to these ideas.

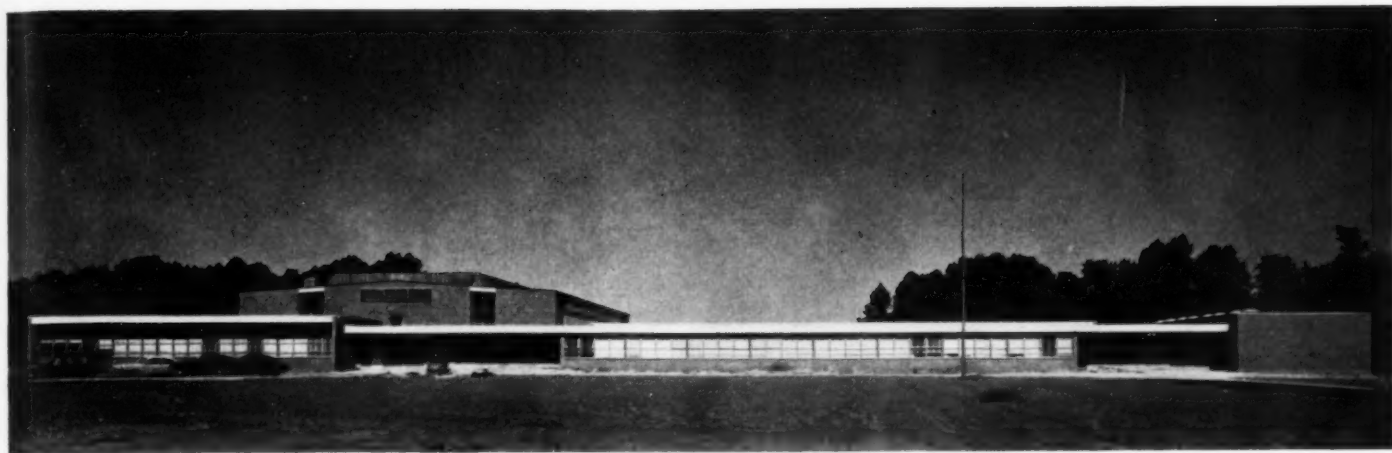
Construction costs are the highest in our history. Some educators still blame architects for high building costs, and in some cases this blame may be deserved. With

educators requiring more in space and equipment, with financial resources becoming depleted, and with a big building program yet ahead, architects have a job to do. The job is both one of public relations and one of design; public relations, to explain costs and to warn clients of unnecessarily extravagant and meaningless requirements; design, to find better and cheaper ways to design and build buildings that will come within the clients' budgets. Remember too, that art thrives on economy.

Educators and communities are showing a reassuring awareness of the value of good design. Human values in architecture are often a stated program requirement. Good architecture springs from a direct and uncompromising solution to the clients' problems; the interest and understanding of the client should be cultivated throughout the entire development of the design and he, the client, should feel that he has shared in all design decisions. Architecture of quality, however, cannot be created by democratic vote of the building committee, or by teacher committees. Here the architect comes into his own; he should be of such professional stature and skill that he creates what no other planning participant can, a work of architecture.

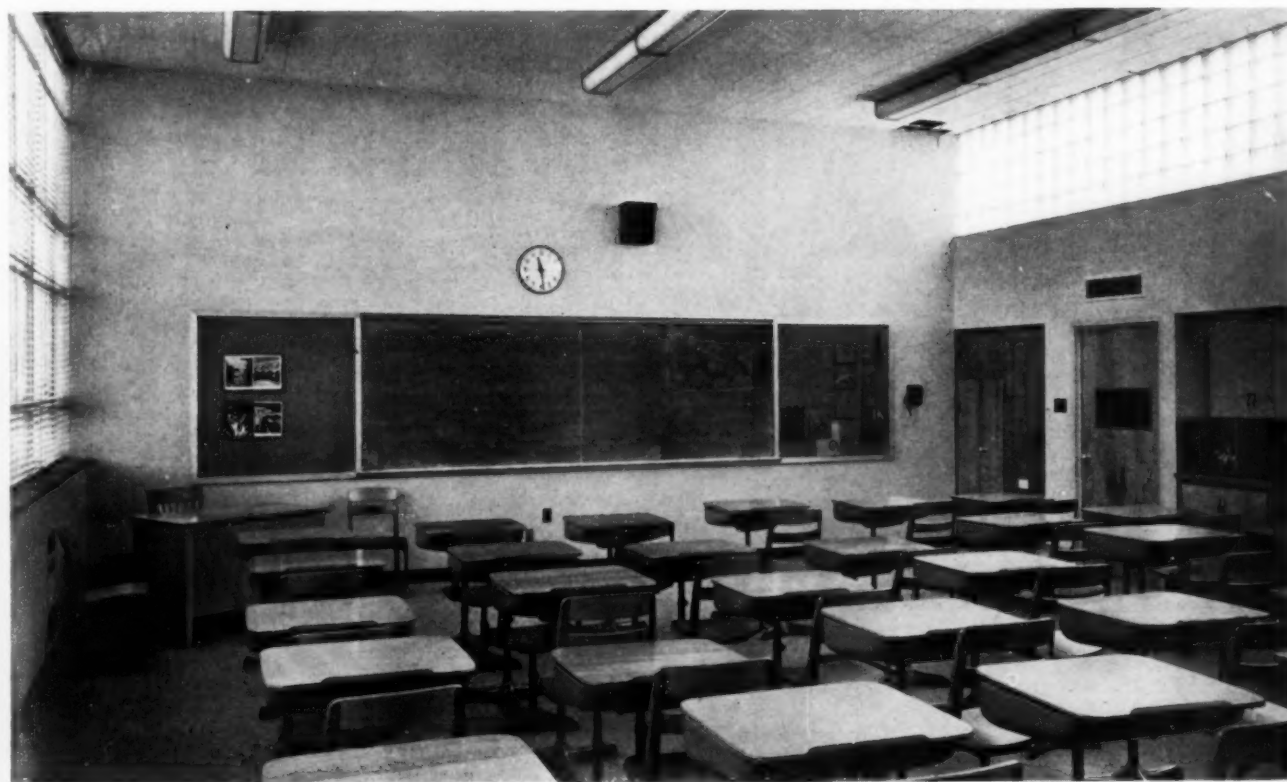
Model, Virginia Greeny photo, Ernest Brann





GEORGE MASON JUNIOR-SENIOR HIGH SCHOOL, FALLS CHURCH, VA.

McLEOD AND FERRARA, Architects



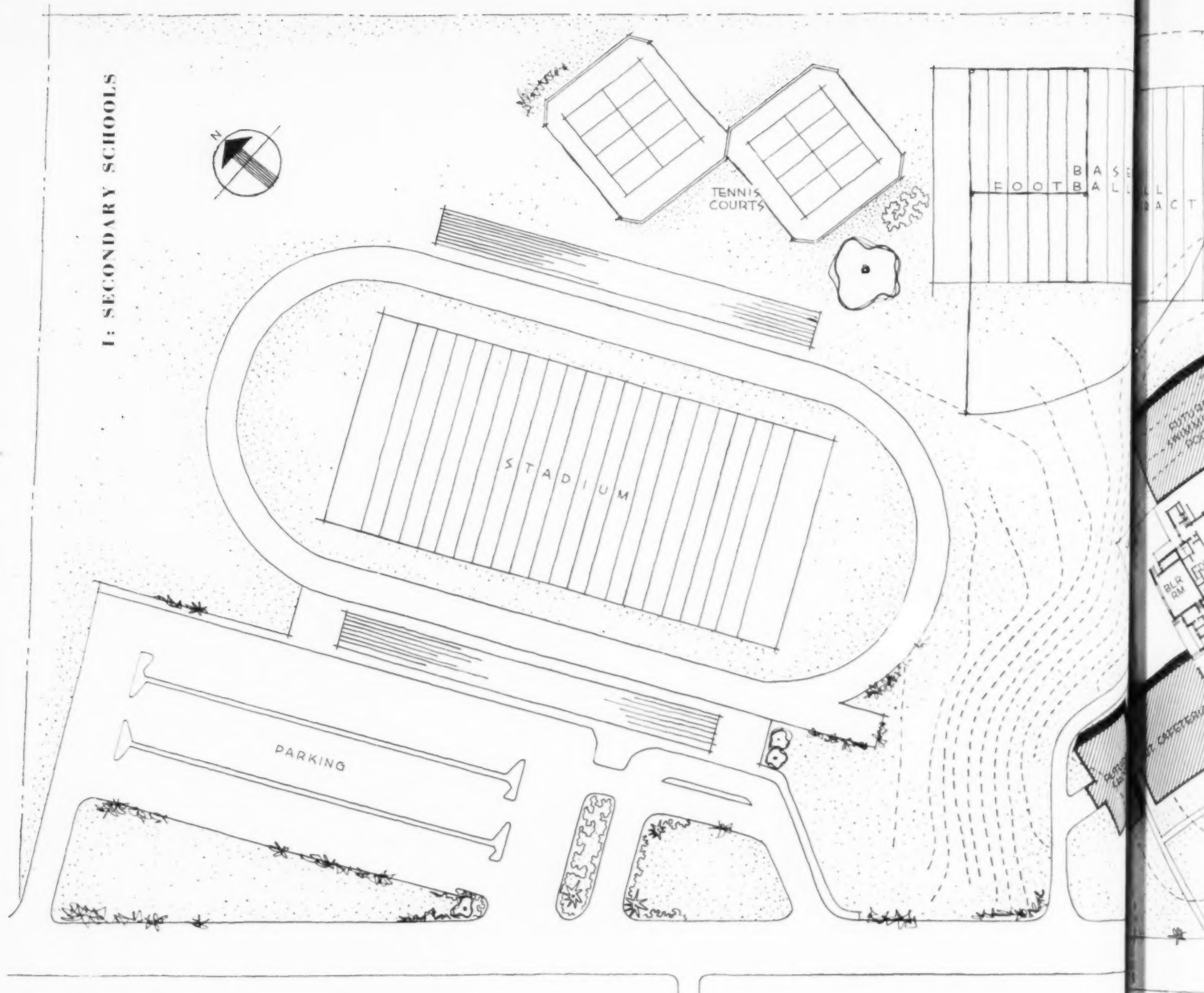
Lee Salbery Studios

WINNER OF A TOP HONOR AWARD at the 1951 school exhibition of the American Association of School Administrators, and of an honorable mention in the 1952 competition conducted by the magazine, *School Executive*, the George Mason Junior-Senior High School is also displayed in model form at the headquarters of the International Bureau of Education in Geneva, Switzerland.

After serious delays in obtaining structural steel, the first portion of the school has just been completed at a cost of \$680,952. The nearly 760,000 cu ft now built

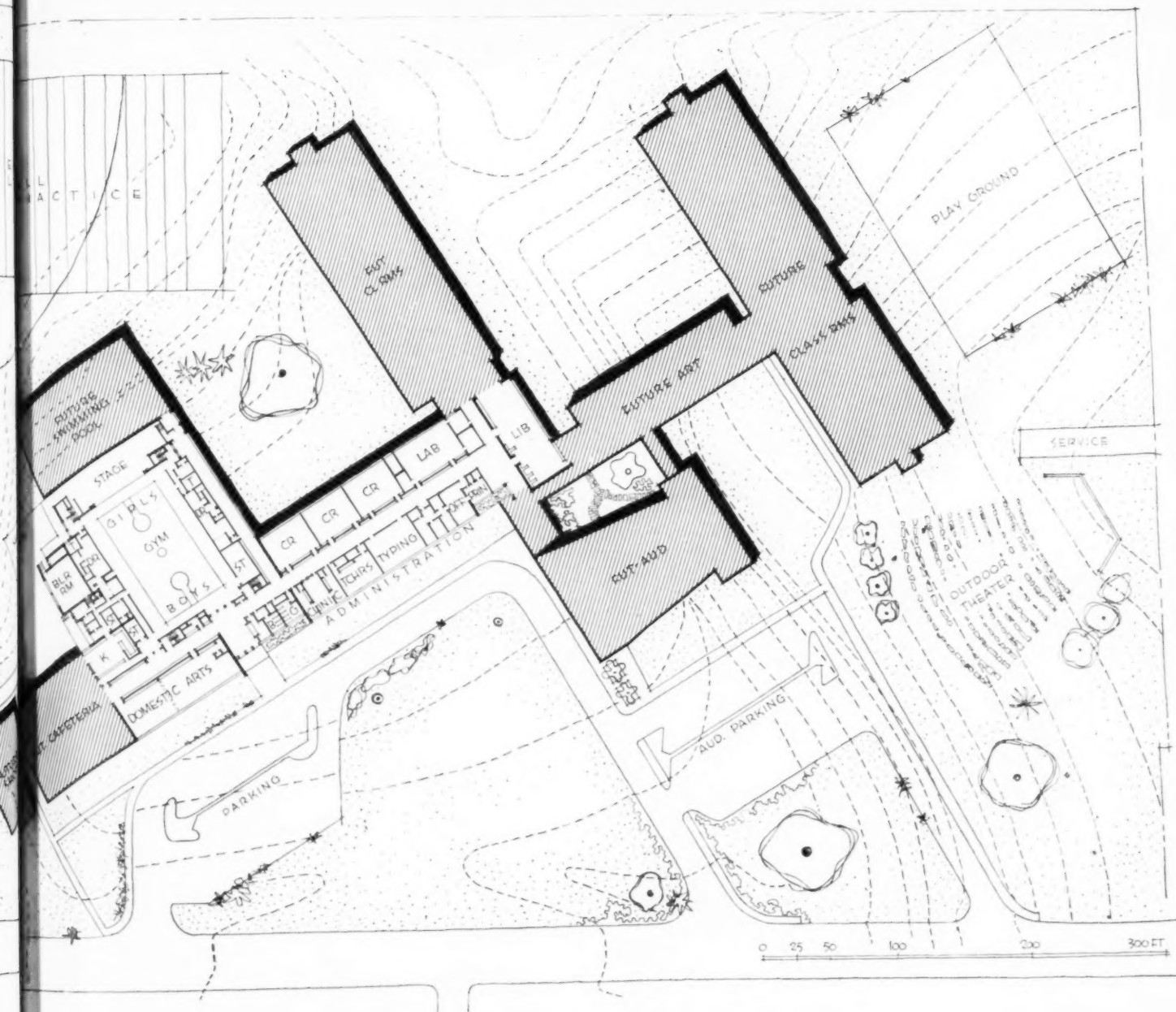
are likely to constitute only a first step; one of the main governing factors was the need for unlimited flexibility to permit future additions. While the building was being designed, annexation of portions of Fairfax County was under consideration. This would have increased student enrollment considerably. Therefore, the architects had to provide for a present school population of 300 to 400, with the expectation that this might be increased to 1000 or 1200 students. As conceived, the building can be enlarged without costly and extensive remodeling of the original building, or changes in use of site.

I: SECONDARY SCHOOLS



In George Mason Junior-Senior High School, full utilization of the site (taking advantage of changing levels and providing much parking space) and a one-story plan laid out so future additions can be assimilated, not merely appended to the initial structure, are particularly noteworthy. While the curriculum is obviously not as unified as it is in the Tierra Linda School (see preceding pages), and classrooms are not as large, this school could well accommodate one of the many variations of the "common learnings" secondary program. Its scale and proportion follow naturally from its logical plan and careful detailing.

Photos: left, the pleasant library; right, rigid-framed gymnasium, divisible by a folding partition into boys' and girls' areas, and with a large stage

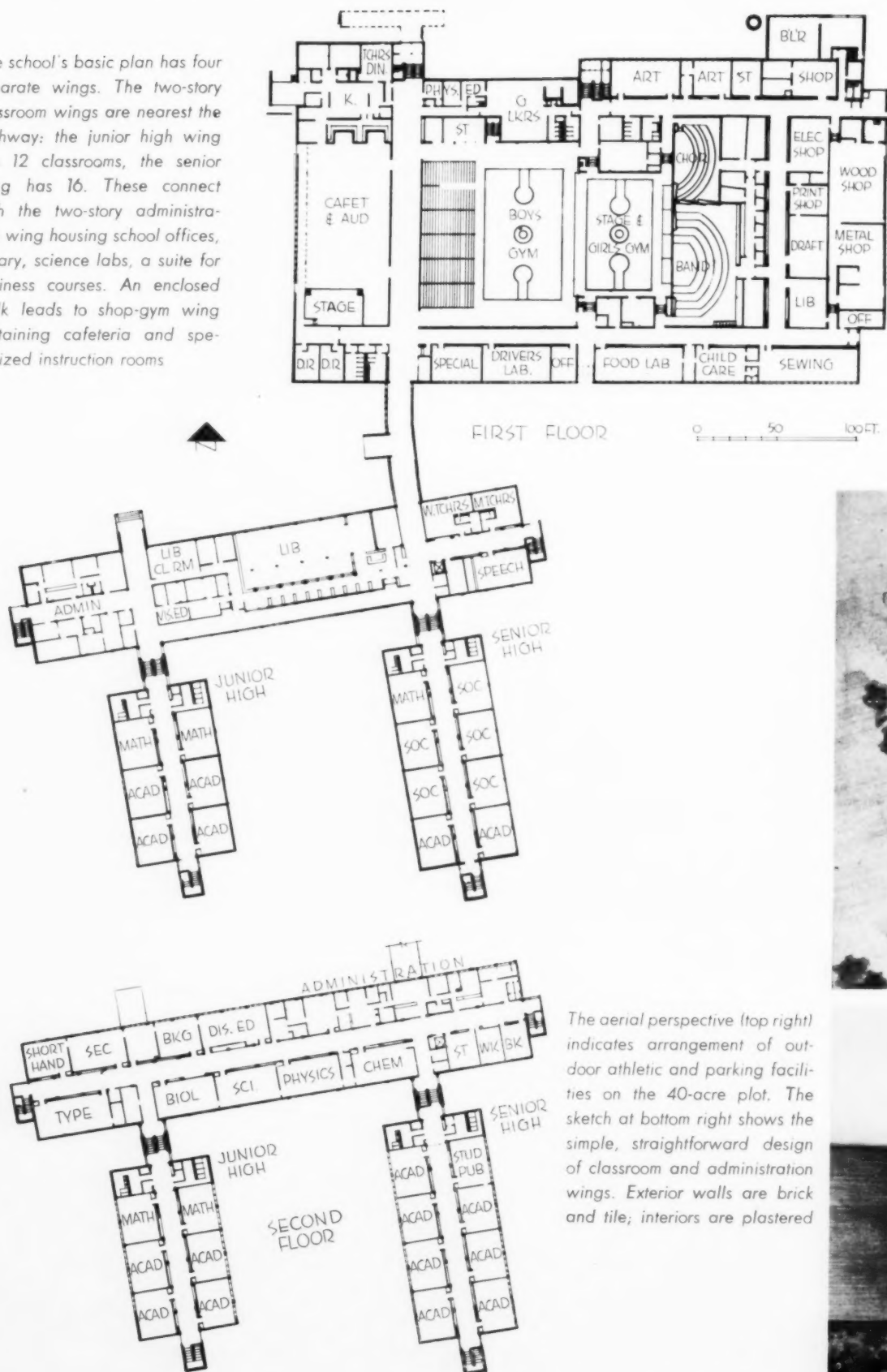


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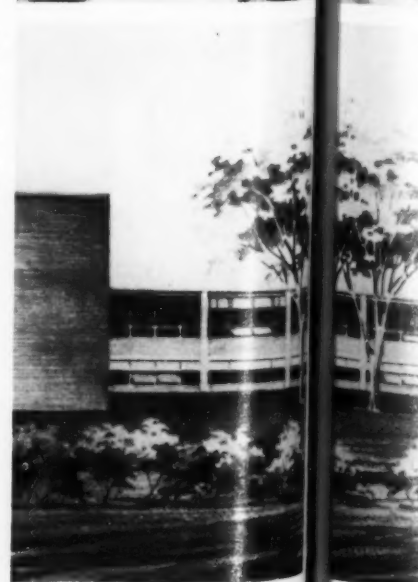


I: SECONDARY SCHOOLS

The school's basic plan has four separate wings. The two-story classroom wings are nearest the highway: the junior high wing has 12 classrooms, the senior wing has 16. These connect with the two-story administration wing housing school offices, library, science labs, a suite for business courses. An enclosed walk leads to shop-gym wing containing cafeteria and specialized instruction rooms



The aerial perspective (top right) indicates arrangement of outdoor athletic and parking facilities on the 40-acre plot. The sketch at bottom right shows the simple, straightforward design of classroom and administration wings. Exterior walls are brick and tile; interiors are plastered



ALEXANDER RAMSEY JUNIOR-SENIOR HIGH SCHOOL

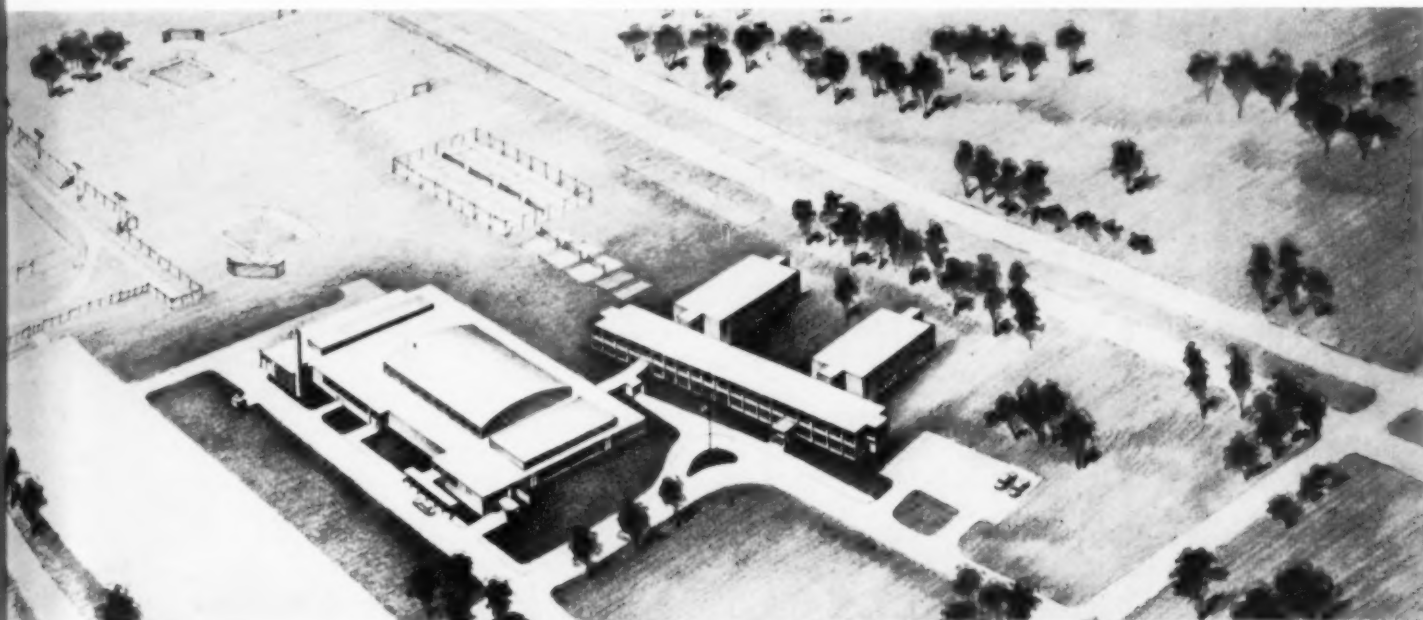
St. Paul, Minnesota

Mangney, Tusler and Setter, Architects and Engineers

A VARIANT OF THE CAMPUS TYPE PLAN has been devised for this combined junior-senior high school for a large suburban district on the outskirts of St. Paul. The basic scheme is divided into four separate wings placed so that future expansion will be possible. In a general sense, the plan arrangement recalls that of the preceding schools: academic classrooms, facilities for specialized instruction and administration quarters are each separate entities; and provision is made for three types of educational programs — the junior high, a pre-

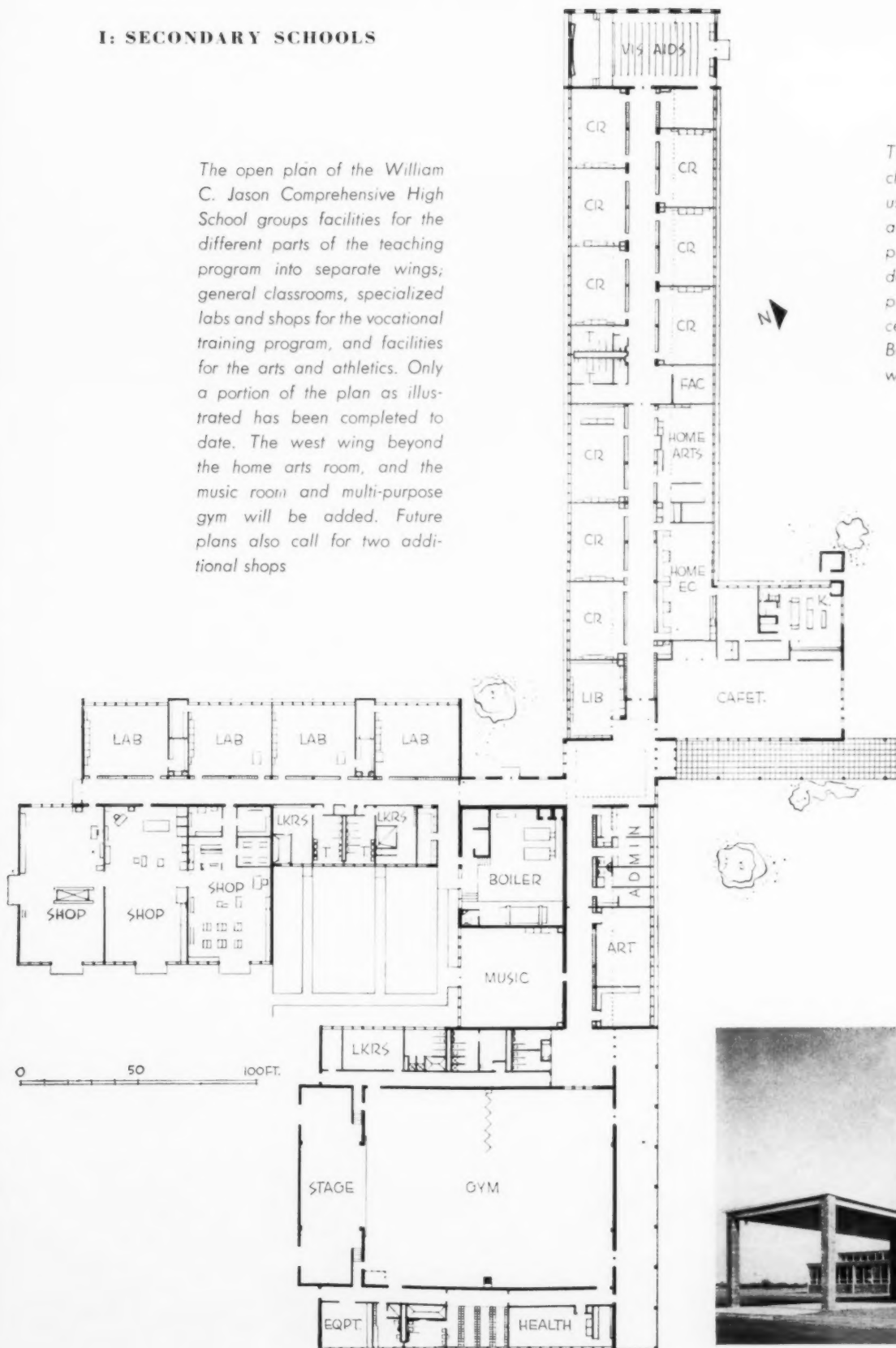
college program and a vocational program. In addition there are complete athletic facilities and a separate sewage disposal plant. The teaching program itself is probably closer to the current norm, than to the new theories previously presented.

Steel frame construction is being used for the shop-gymnasium wing, reinforced concrete for the other three wings. A special feature of the school is a peripheral heating and ventilating system; warm air enters through window stools, exhausts through lockers.



I: SECONDARY SCHOOLS

The open plan of the William C. Jason Comprehensive High School groups facilities for the different parts of the teaching program into separate wings; general classrooms, specialized labs and shops for the vocational training program, and facilities for the arts and athletics. Only a portion of the plan as illustrated has been completed to date. The west wing beyond the home arts room, and the music room and multi-purpose gym will be added. Future plans also call for two additional shops

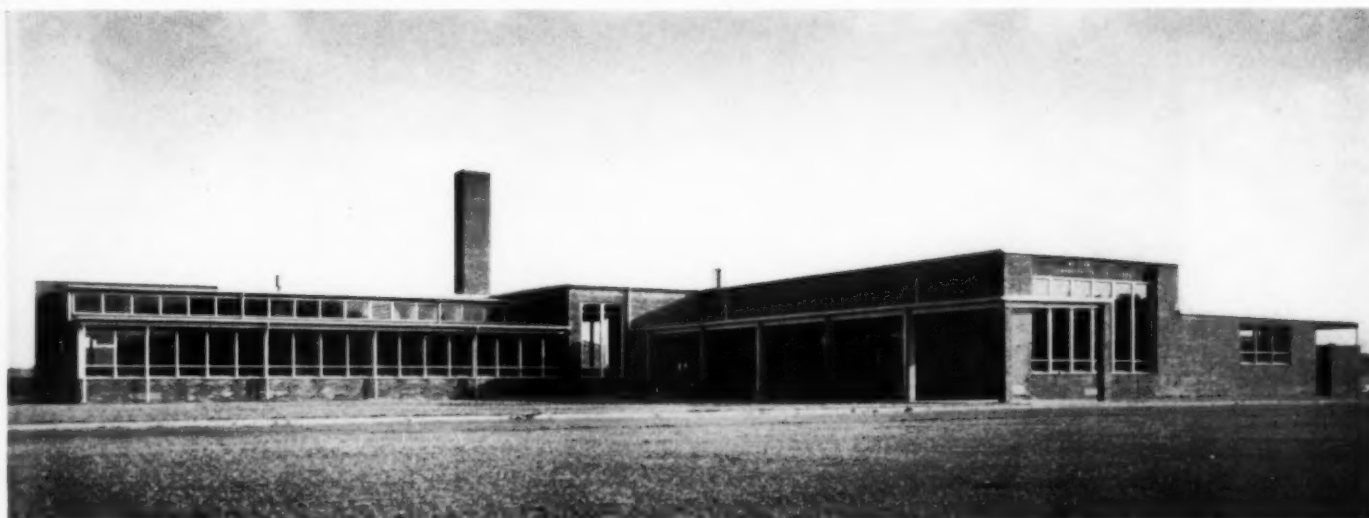


The design of the school is clean cut and straightforward, uses a 4-ft module for structure and fenestration. Clerestories provide daylighting for corridors. The school was also planned for use as a community center. Right: front elevation. Below, right: classroom and lab wings, rear view

Cortlandt V. D. Hubbard



Above: cafeteria and covered walkway leading to entrance lobby



WILLIAM C. JASON COMPREHENSIVE HIGH SCHOOL

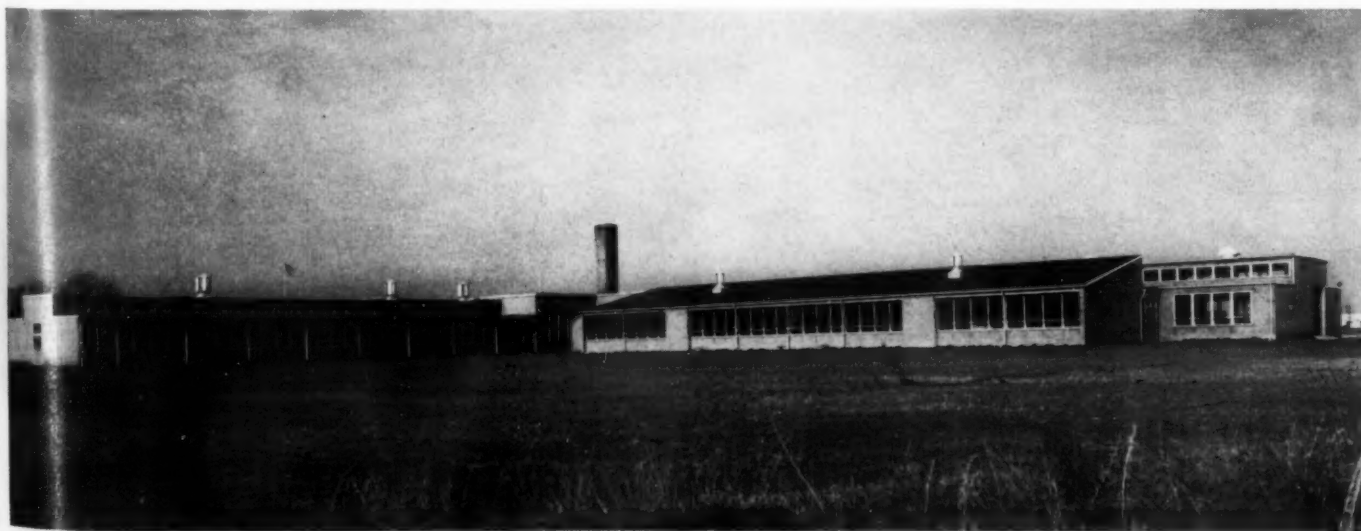
Georgetown, Delaware

Victorine & Samuel Homsey, Architects

A MORE SPECIALIZED TYPE of educational program has been provided for in the flexible, expandable plan of this school. Special emphasis is placed on vocational training in the agricultural, automotive and building trades, combined with a regular high school program. The school is for Negro pupils and serves an area of about a 20 mile radius.

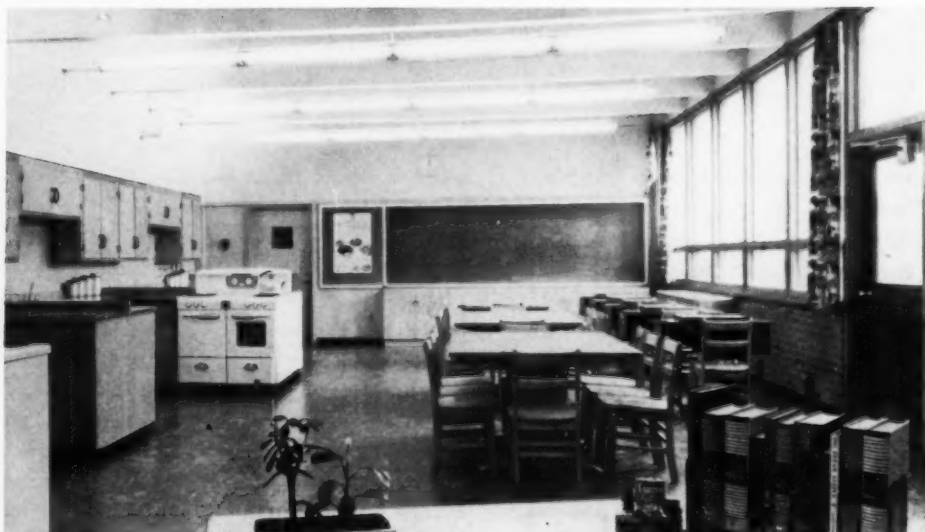
The plan, arranged in three wings, was developed to permit changes in curriculum without requiring structural changes, and to allow easy expansion as the need arises. The building as shown in the photographs represents the first stage of construction; more classrooms and a visual aids room will be added to the west beyond the home arts room, and an auditorium-gym-

nasium and a music room will be added to the east to complete the plan illustrated on the opposite page. In general, frame walls have been used at the ends of all wings to permit the expansion. The structure was planned on a 4-ft module, expressed by exposed wood beams on the interior, the fenestration and the room sizes. Classroom partitions are plywood on both sides, and are designed for easy removal or relocation. Extra space is provided in the boiler room for additional heating equipment, and all piping is sized for the future growth. A full athletic layout, including a football field, a baseball diamond and a quarter mile track, is to be developed on the flat 25-acre plot. Two more shops will also be added at a later date.

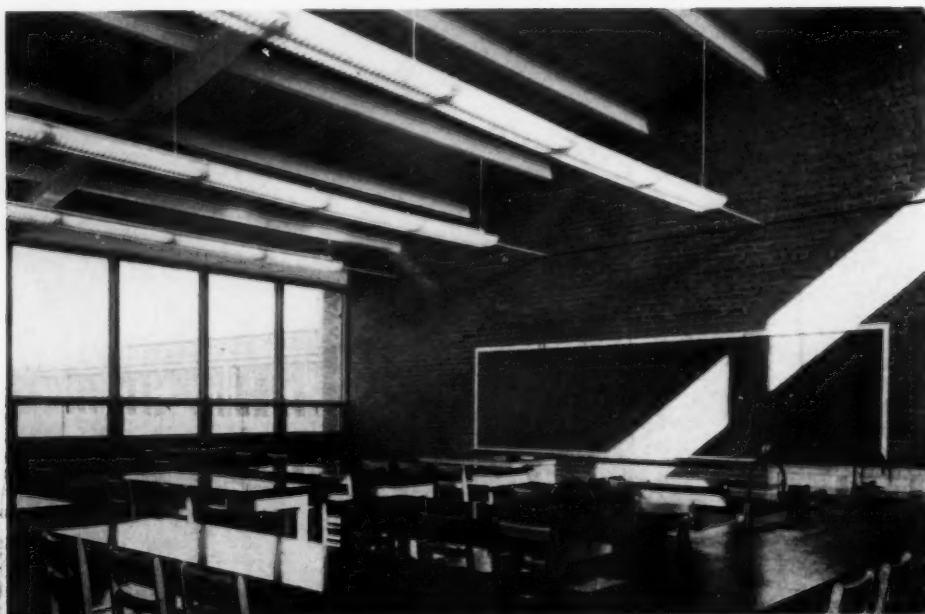




Above: library off main lobby. Below: home economics room adjoins main kitchen and cafeteria

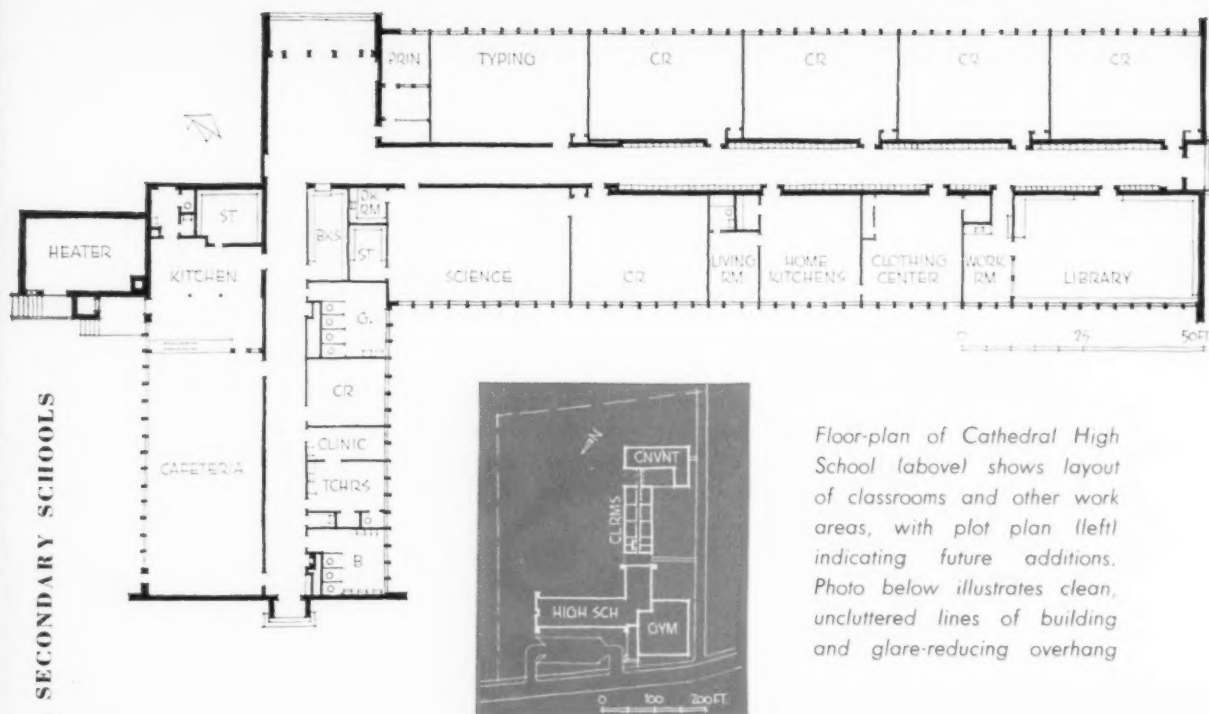


Below: typical lab shed roof permits clerestory lighting. Opposite page: typical vocational training shop



The Jason School is constructed with 10-in. cavity brick exterior walls, left exposed on both sides. Framing is of steel and heavy mill-type timber. Interior partitions are finished with plywood and wallboard. Floors throughout are asphalt or ceramic tile. Acoustical panels are used on the ceilings of the kitchen, cafeteria and corridors; ceiling beams are left exposed in all other areas. Natural ventilation is supplemented by centrifugal fans and gravity ventilators. Heating is by a steam system using oil burners. All materials were selected for their ability to stand up under hard usage. Erwin Faller was Consulting Engineer for the project, Louis H. Doane was Structural Engineer, Rupert Construction Co. was General Contractor.





Floor-plan of Cathedral High School (above) shows layout of classrooms and other work areas, with plot plan (left) indicating future additions. Photo below illustrates clean, uncluttered lines of building and glare-reducing overhang

Joseph W. Molitor



CATHEDRAL HIGH SCHOOL

James T. Canizaro, Architect-Engineer

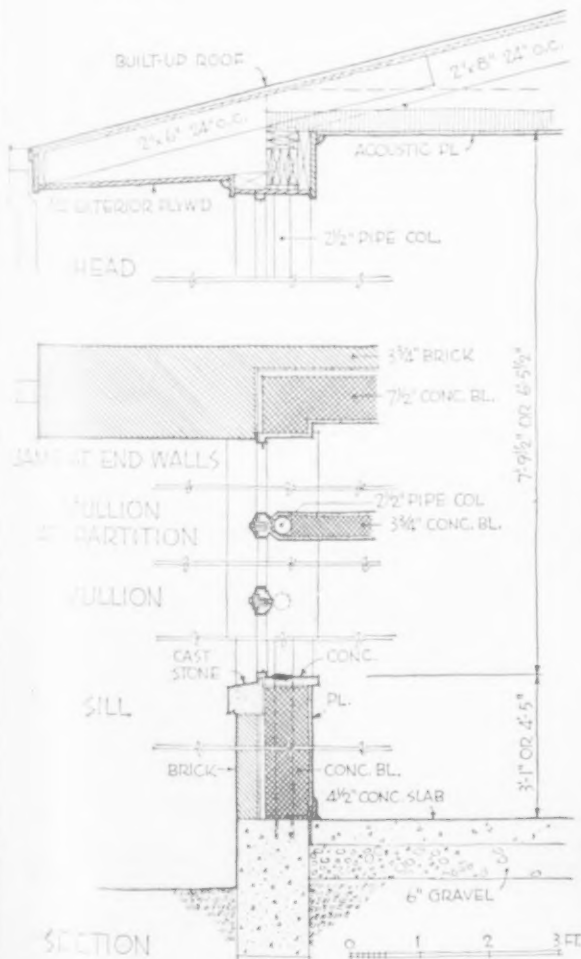
Natchez, Mississippi

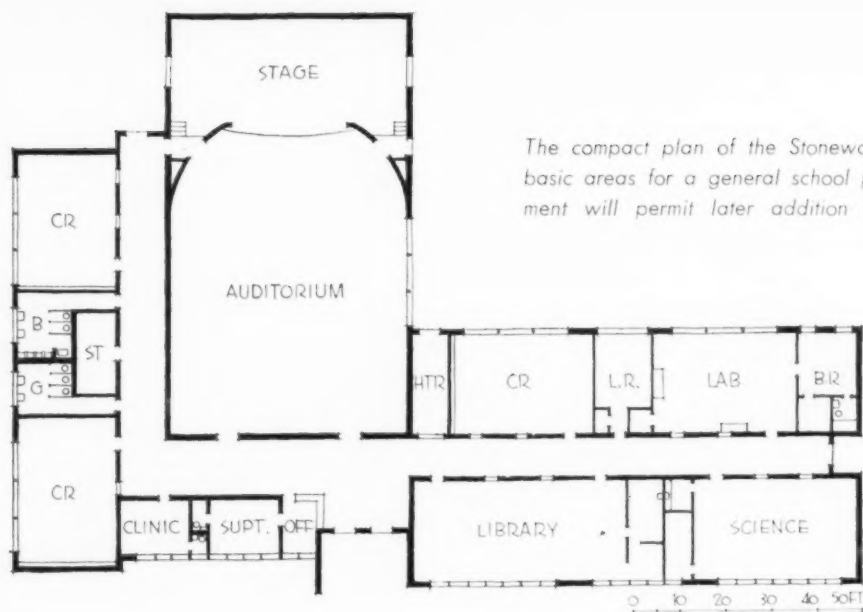
ECONOMY WAS A BASIC FACTOR in planning this parochial school, so designed as to house a future auditorium-gymnasium and yet provide adequate facilities for present use. The cafeteria serves multi-purpose use until the time when future additions are made, and classrooms have movable desk-chairs which permit various changes to be made for different functions. Future plans include a convent, chapel and a junior high.

Although not primarily a vocational school, there is a complete home economics department, containing a working kitchen and a clothing center. Maintenance has

been reduced to a minimum by the use of terrazzo floors in all corridors, cafeteria and lobby, with quarry tile floors in kitchen and walls of glazed facing tile. The exterior, constructed of brick backed by tile, has a clean, straightforward appearance. The roof of the building is insulated with 1-in. glass wool, and has a wide overhang to eliminate as much sun and glare as possible. Continuous windows permit maximum light and ventilation and all windows are steel sash. The present building occupies 16,193 sq ft and construction costs for the school averaged around \$11.16 per sq ft.

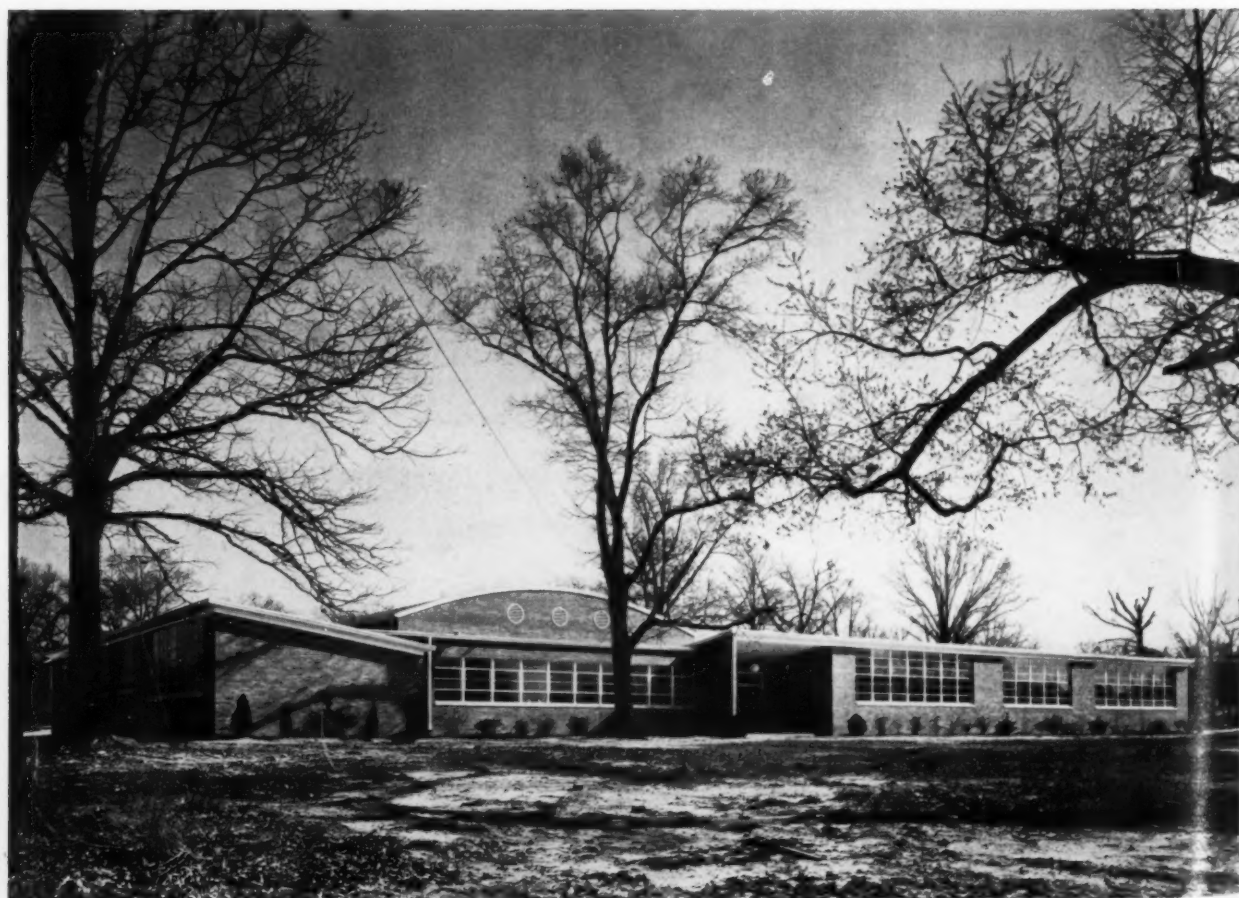
Typical classroom at right is well lighted, both naturally and artificially. Cafeteria, lower right, is cheerful and inexpensive to maintain





The compact plan of the Stonewall School includes basic areas for a general school program. Arrangement will permit later addition of other facilities

The exterior of the buildings is kept simple and neat, relies on massing of units, contrast of painted commercial sash and brick



STONEWALL CONSOLIDATED HIGH SCHOOL

Stonewall, Mississippi

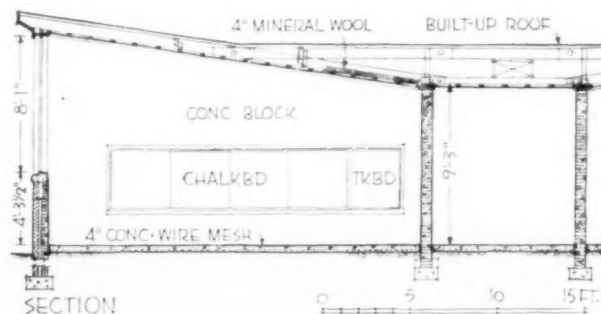
Bill Archer, Architect-Engineer

THE PRESSING NEED for more school facilities, coupled with a shortage of funds available for the purpose has become a serious problem in many localities. This school in Stonewall, Miss., offers one answer. As space for teaching was the most vital necessity the project was designed to obtain the maximum amount of shelter at the lowest possible cost, with the thought that as funds become available other necessary facilities and equipment could be added. Only the minimum of equipment was provided initially.

The major cost-saving was accomplished by trying in every possible instance to make the materials serve a twofold purpose, and to take advantage of local site conditions. After a study of the soil and drainage conditions, it was decided to eliminate the use of a gravel bed under the concrete floors on grade. The result has been quite satisfactory. The structural walls are lightweight aggregate concrete blocks, faced with brick on the exterior, and the interior surface spray-painted with resin emulsion paint. The blocks were particularly selected for their noise reduction value, eliminating the need for other acoustical insulation. The roof system was built of dense southern yellow pine using metal

connectors. Deck, insulation and ceiling were applied directly to the roof structure. Most of the roof eaves slope towards the corridors, with drains at the end of the classroom wings to reduce the amount of gutters.

The complete building, which deftly avoids a minimum cost appearance, contains 15,175 sq ft of floor space, and was built for \$4.15 per sq ft. This includes a central gas-fired warm air heating system, plumbing facilities including sewage disposal and a minimum lighting system.



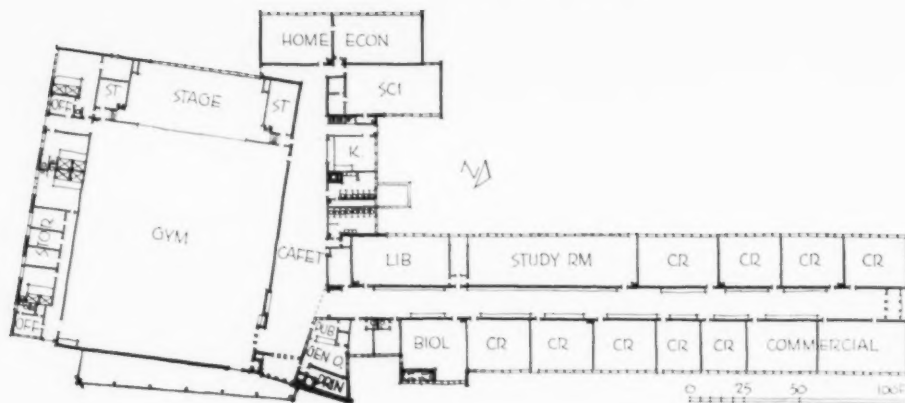
Joseph W. Molitor



Above: classrooms have tile board ceilings, floors of concrete with surface treated, painted concrete block walls

I: SECONDARY SCHOOLS

Floor plan of Ellsworth High shows convenient location of classrooms in relation to the other work areas. Glass window walls in classroom wing are clearly visible in both plan and photos at right and below, as is the glazed portion of gymnasium wall. Biology lab is illustrated on opposite page, with testing area shown at far right of photo. Open feeling created by glass and acoustical treatment of ceiling are both attractive and beneficial to students



Paul Wheeler





Joseph W. Molitor

ELLSWORTH HIGH SCHOOL

Ellsworth, Maine

Alonzo J. Harriman Inc., Architects-Engineers

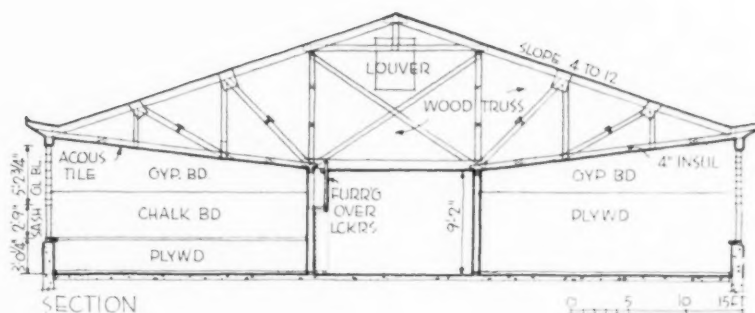
ECONOMY AND EXPANSIBILITY were the major considerations in planning this school, originally planned to accommodate 450 pupils. Located in a heavily wooded area of a northeast sea-coast city, extensive landscaping was necessary, ledge and drainage problems were present and an athletic field layout had to be integrated with the land and the building. An example of economy was the conversion of the contractor's construction warehouse into a woodworking and agriculture shop.

Wood, concrete and glass block with steel sash are the materials used in the classroom wing, with the end wall of wood to allow for future expansion. The

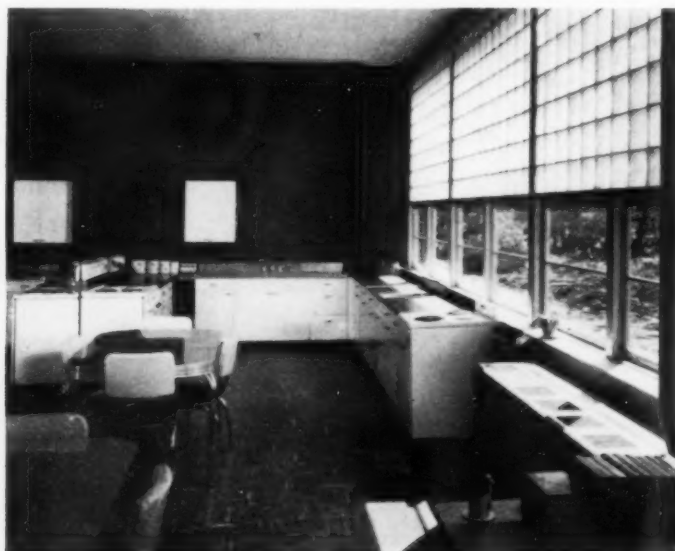
roof is supported by wood trusses with load-bearing walls. Interior classroom walls are gypsum board with a birch plywood dado 7 ft high. The gymnasium is of brick and terra cotta tile, with the latter also forming the partitions. Gymnasium has showers, locker rooms and a stage and is connected to the school proper by a wide, tapering corridor, which serves as the school cafeteria. Acoustical tile is used throughout on ceilings and the floor is asphalt tile over a concrete slab on fill. Heating is provided by a low pressure steam system using oil burners. School construction costs were \$9.01 per sq ft and cost per pupil was about \$820.

I: SECONDARY SCHOOLS

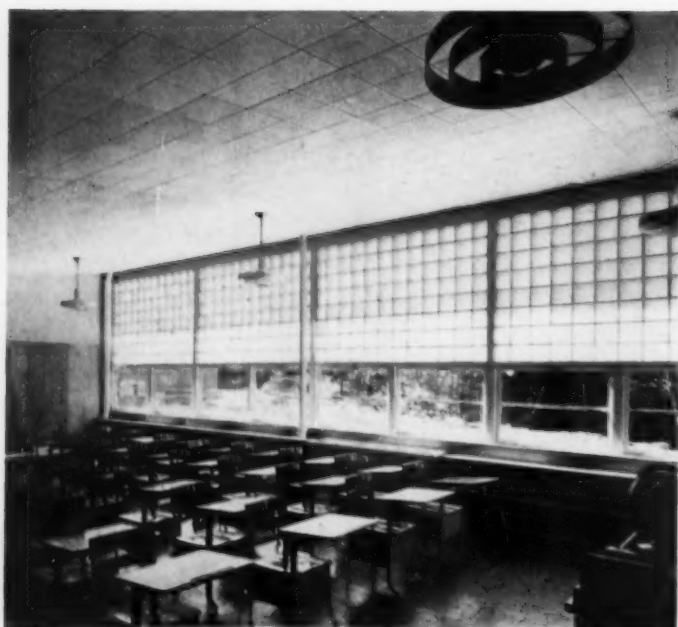
Details of wall section indicate wood truss construction on roof, showing upward pitch of classroom ceiling from corridor to exterior wall. Drainage from roof is at junction where overhang slopes upward. Rigid frame truss construction is used in the gym, bottom right



Commercial department (above) is completely equipped and well lighted. Typical classroom is shown below



Home ec department (above) has large work areas. Gymnasium below has concentric-ring lights



KESTER AVENUE ELEMENTARY SCHOOL

Los Angeles, California

Richard J. Neutra, Architect and Consultant

II: ELEMENTARY SCHOOLS

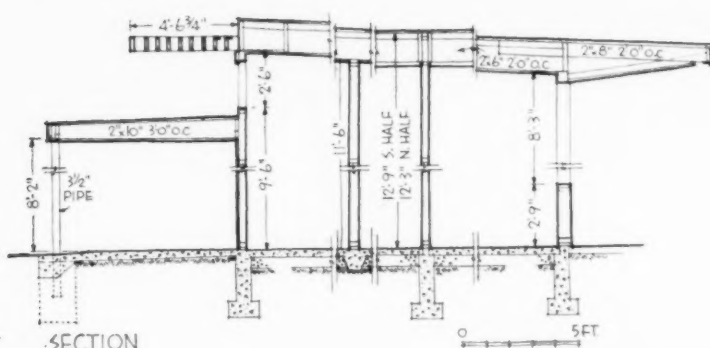
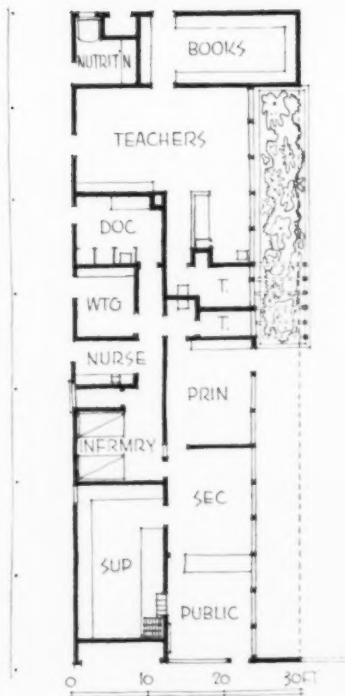
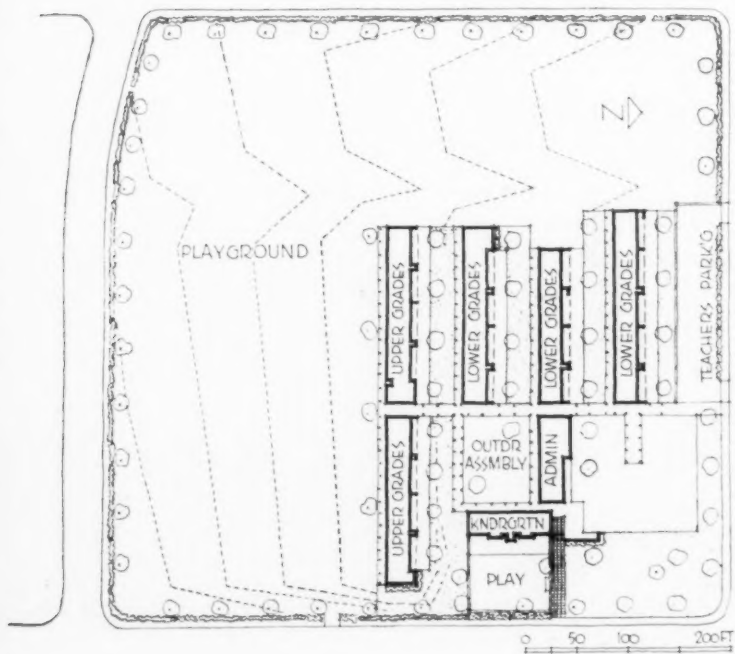


Photos: Julius Shulman

IN CONTRAST with secondary schools, educational philosophy at elementary levels is pretty well set; learning has become much more active, less passive. Most of today's elementary schools are one-story, even where the pavilion or finger plan is not suitable, because of their lighter, more human scale, flexibility for chang-

ing needs and cheaper construction. Buildings need not be fireproof and require little or no excavation. Another quality, of which Mr. Neutra has long been an exponent, is the possibility of extending classroom areas into the outdoors, and developing a more intimate relation with the surroundings.

II: ELEMENTARY SCHOOLS



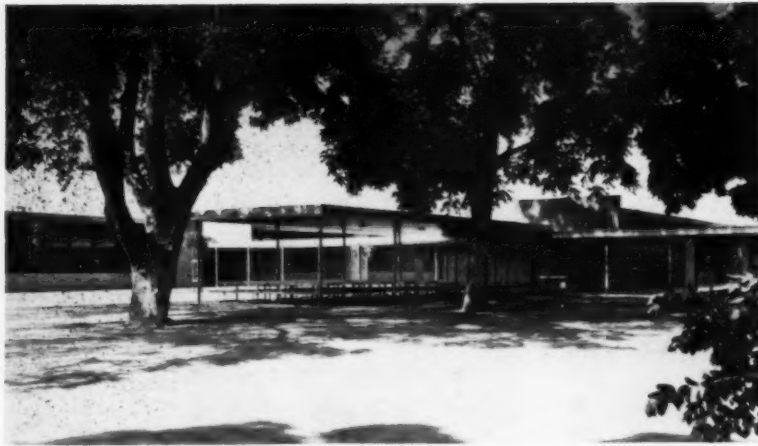
The Kester Avenue Elementary School consists of seven separate buildings, linked by covered walks. The site occupies an entire square block. (See plan at top left.) The buildings include an administration building (plan top center), two kindergarten classrooms (photos at right and opposite page), eight upper grade classrooms and 13 lower grade rooms. There is also an outdoor roofed-over lunch room and an outdoor assembly area. Space is provided for a future cafeteria and auditorium. Typical classroom section (above center) includes sun baffles to the south



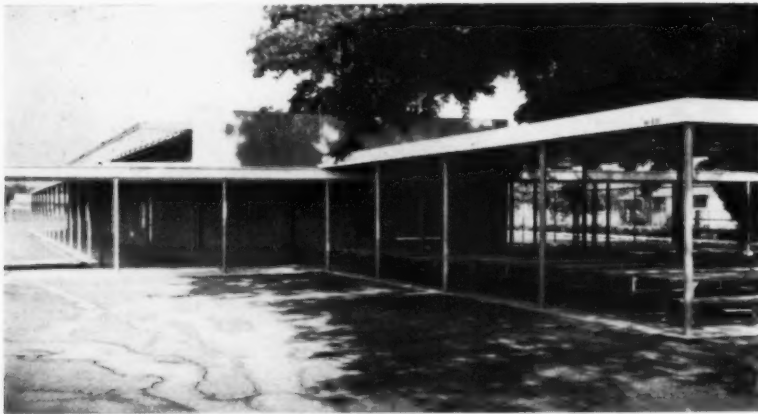


The buildings are constructed with concrete floors covered with asphalt tile. Walls are wood stud, finished with plaster or plywood. Roofs are light gravelled composition over wood rafters, ceilings are surfaced with acoustical tile. Canopies over walks (above) are supported by steel columns painted bright coral

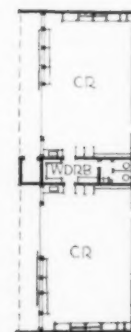
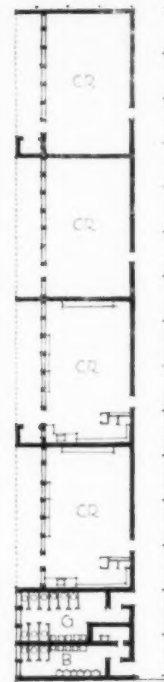
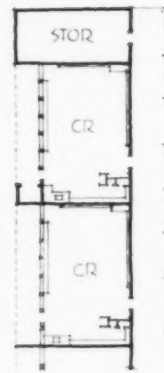




Above and below: outdoor lunch room adjoining lower grade classroom building is used most of year



Below: kindergarten and administration buildings. The latter is set apart by planting box (page 143)

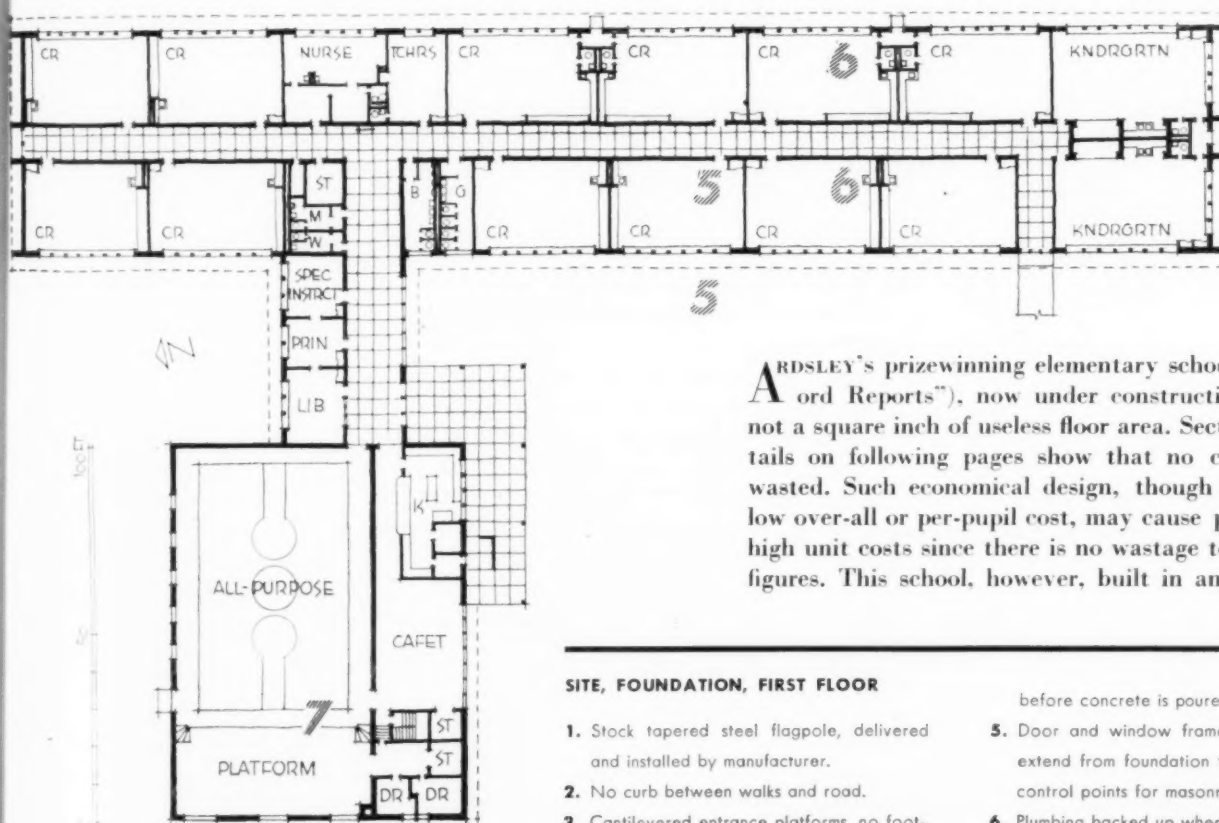


Typical classroom building plan (top right) is varied by two alternate endings. Bottom plan is of kindergarten unit. A furnace is between every other pair of classrooms



ELEMENTARY SCHOOL, ARDSLEY, N. Y.

ROBERT A. GREEN
Architect

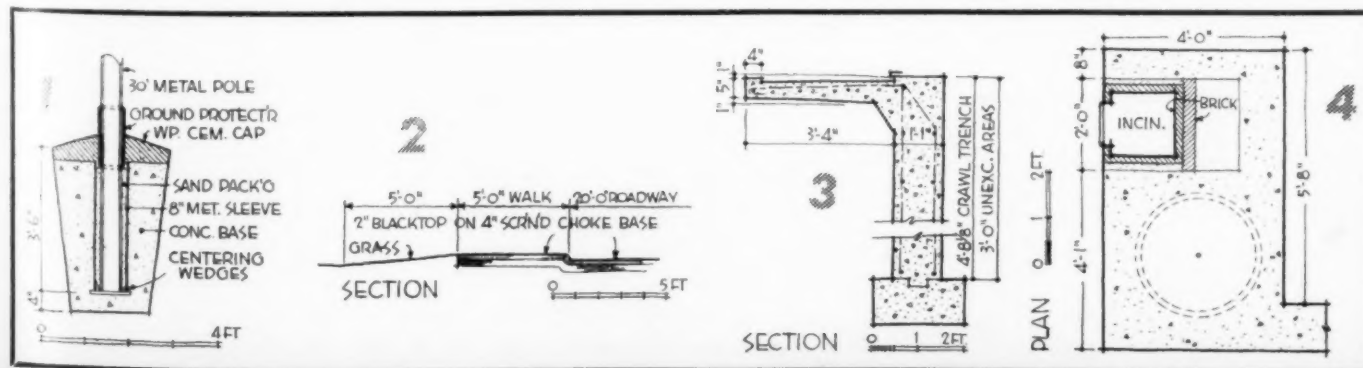


ARDSLEY's prizewinning elementary school (see "Record Reports"), now under construction, contains not a square inch of useless floor area. Sections and details on following pages show that no cubic inch is wasted. Such economical design, though it results in low over-all or per-pupil cost, may cause paradoxically high unit costs since there is no wastage to distort the figures. This school, however, built in an area where

SITE, FOUNDATION, FIRST FLOOR

1. Stock tapered steel flagpole, delivered and installed by manufacturer.
2. No curb between walks and road.
3. Cantilevered entrance platforms, no footings and foundations necessary.
4. Prefabricated incinerator, set in place before concrete is poured.
5. Door and window frames are structural, extend from foundation to roof, serve as control points for masonry.
6. Plumbing backed up wherever possible.
7. Expanded metal panels serve as exhaust grills for ventilating system.

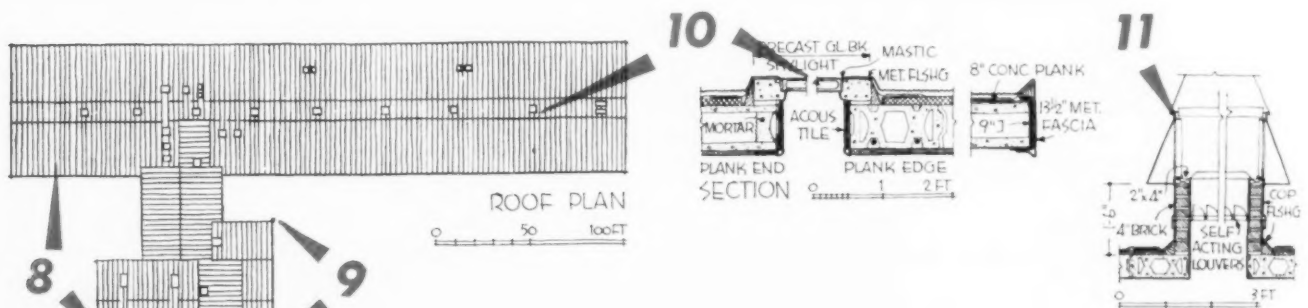
before concrete is poured.



schools not uncommonly run \$20 or more per sq ft, is costing only \$13 per sq ft or 95¢ per cu ft (both approximate), while total construction cost, including much site work, is being held under \$400,000. The entire plant, taking in land cost, fees, equipment, furniture, etc., is coming well within the budget of \$492,000.

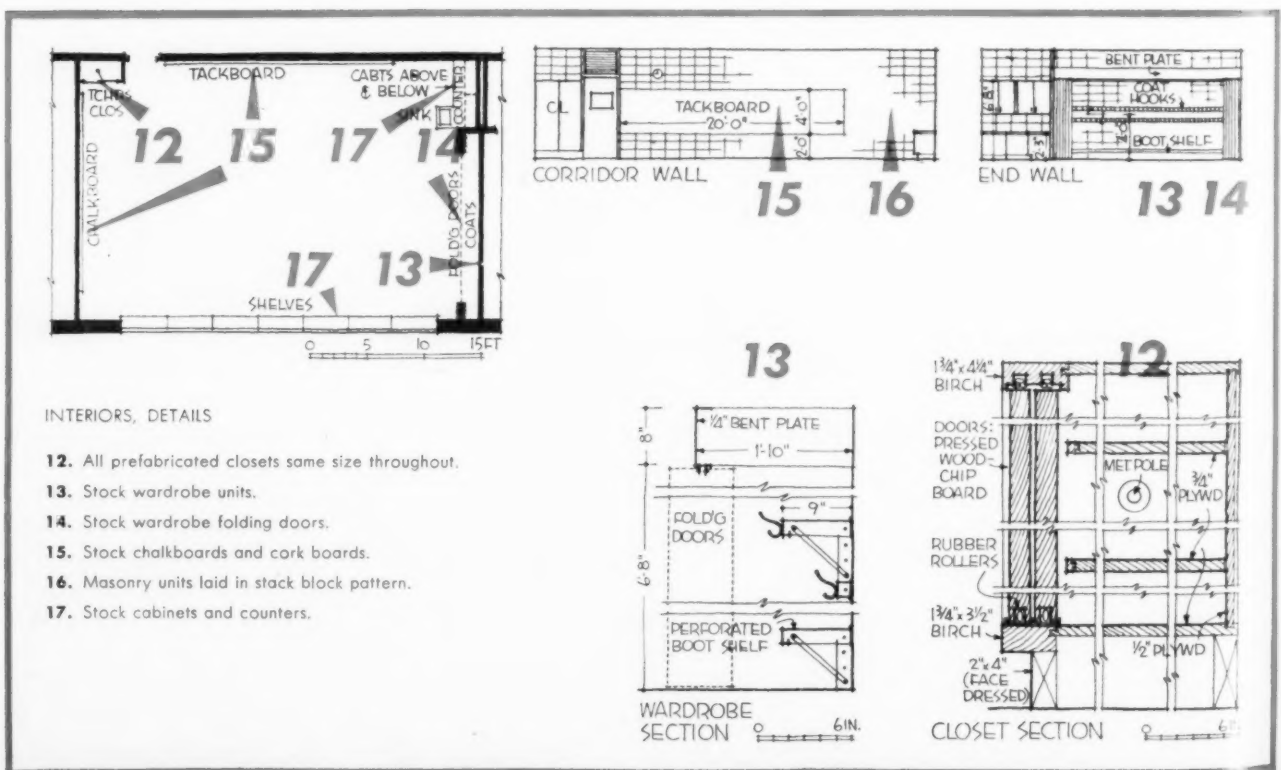
The 14-classroom building, designed so seven more classrooms can be added, has a cafeteria independent of, but adjacent to, an all-purpose room. It is a wall-bearing structure, stripped of non-essentials, carefully sited amid trees and judiciously studied in plan and detail for economy, not for poverty. Color is used liberally (although paint is almost eliminated) by means of integrally colored exposed masonry; in linoleum,

asphalt tile and in terrazzo-floored corridors; in drapes, shades, blinds, chalk- and tackboards and counter tops. Wherever possible, site labor is also eliminated. The dead-level roof, of long-span, light-weight, precast concrete plank, is delivered and installed by the manufacturer. The steel fabricator makes up the standardized frames for window units, complete even to glass molds for non-venting lights, on jigs in his own shop; he delivers and installs them on the finished slab where they become guides against which masons lay up the cavity walls of block and brick. Stock items, not custom-made, are used throughout; virtually the only sizable exception to this principle is the radiant-heated floor slab on grade.



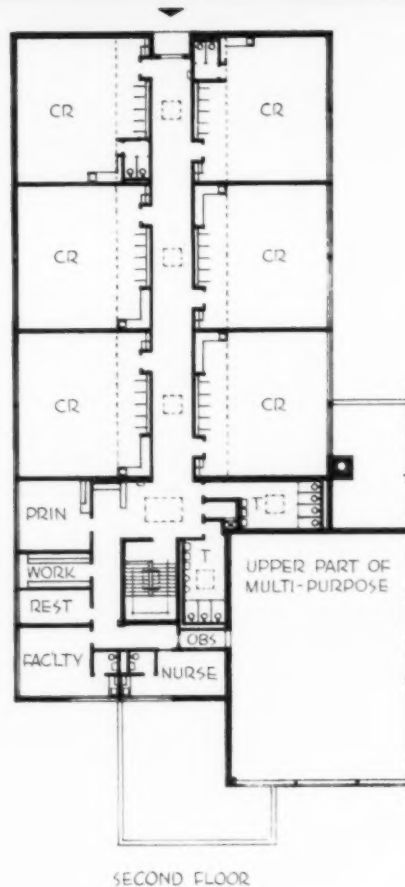
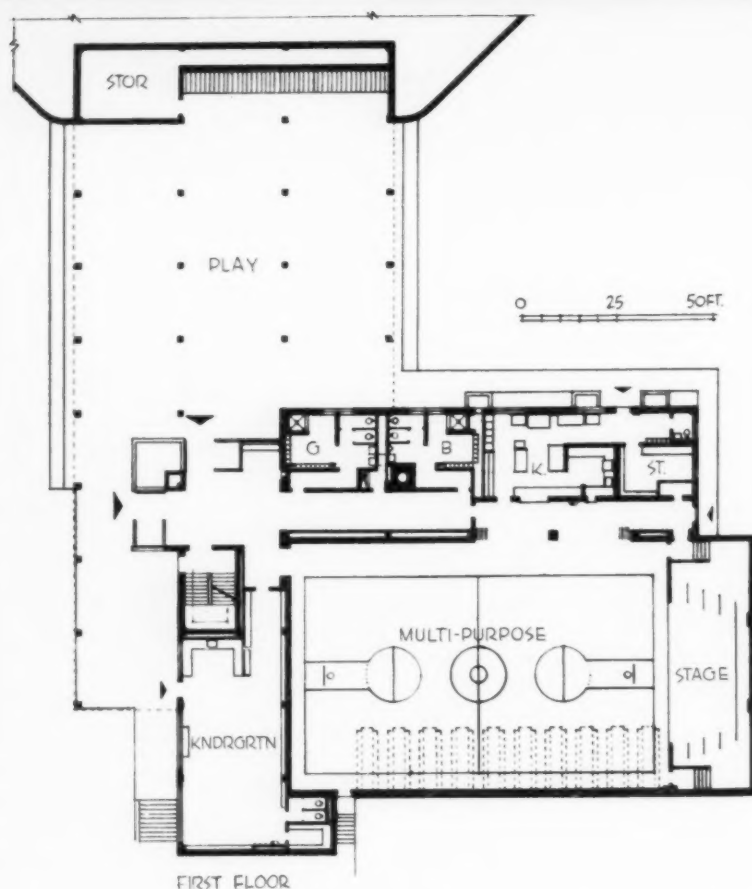
ROOF, SKYLIGHTS, VENTILATOR

8. Long-span roof system, delivered and installed by manufacturer.
9. Porch columns located at outside roof edge to avoid expensive framing.
10. Precast skylights, delivered and installed by the manufacturer.
11. Stock, motorized roof ventilator.



INTERIORS, DETAILS

12. All prefabricated closets same size throughout.
13. Stock wardrobe units.
14. Stock wardrobe folding doors.
15. Stock chalkboards and cork boards.
16. Masonry units laid in stack block pattern.
17. Stock cabinets and counters.



LEE ELEMENTARY SCHOOL

Manhattan, Kansas

F. O. Wolfenbarger & Associates, Architects

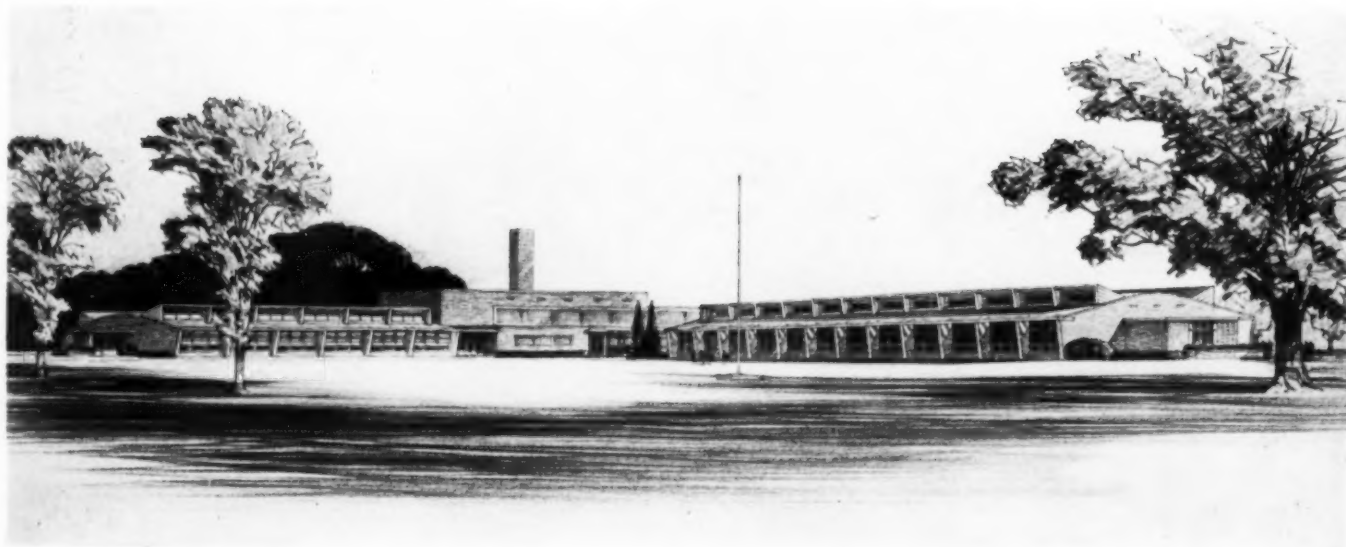
CONTRARY to usual practice, the longitudinal axis of the classroom wing of this elementary school has been placed at right angles to the slope of the hillside plot to provide direct ground level entry to both levels, a variety of outdoor and covered play areas for the various grades, good orientation for natural lighting and views, and protection from traffic and noise. The arrangement of the plan also provides easy access to the multi-purpose room and kitchen for community and recreational uses.

The building is being constructed of reinforced con-

crete frame and formed joists for the lower floor, concrete floors for the second level. The roof is designed with bar joists and gypsum plank, supported by a steel frame. Walls are faced with brick, backed with lightweight concrete block. Interior partitions are of masonry with glazed tile and brick dados; ceilings are of acoustical plaster. Floors are of vinyl plastic in lobby, kitchen and corridors, asphalt tile in classrooms and multi-purpose room. Heating is by a low pressure vacuum steam system to unit ventilators in classrooms, to a duct system in multi-purpose room.



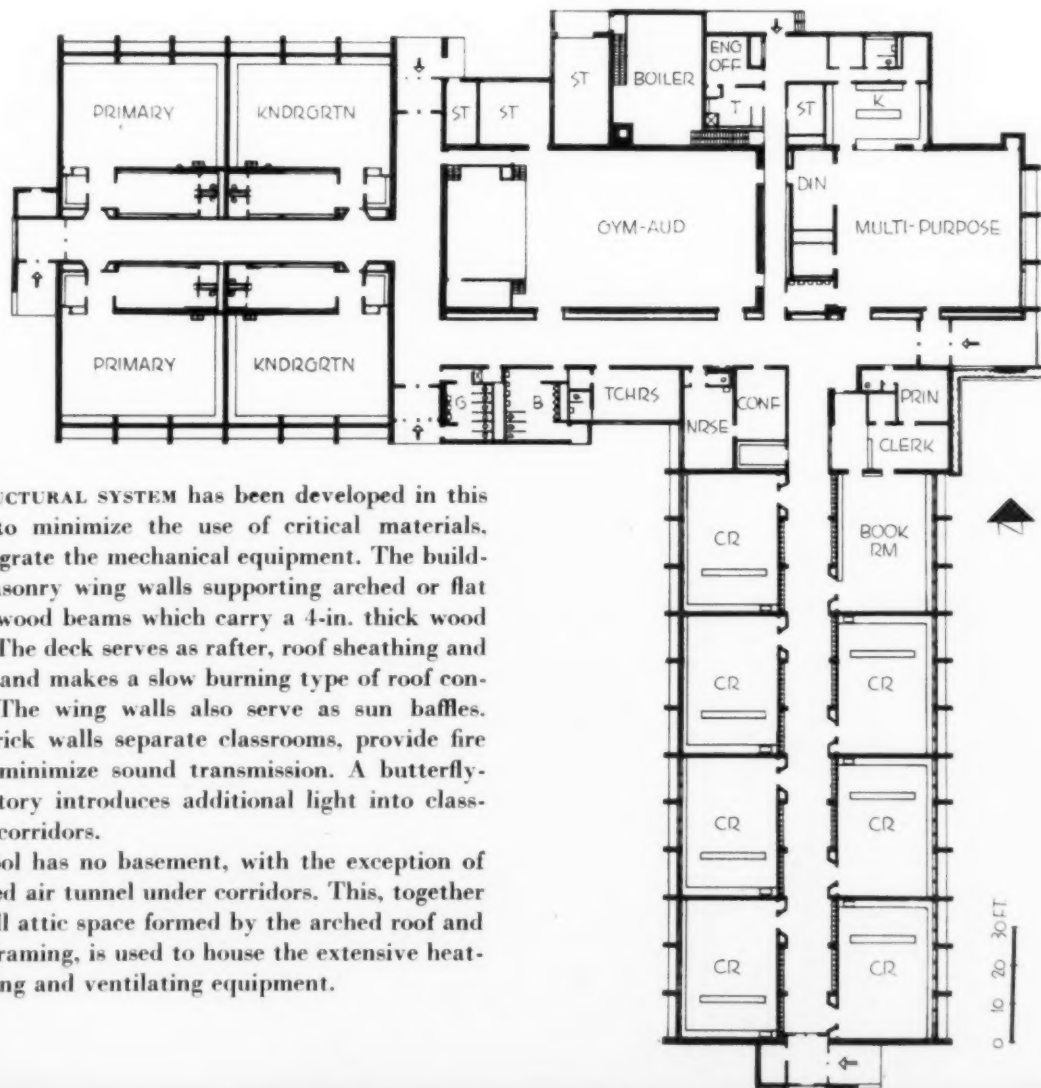
II: ELEMENTARY SCHOOLS



95TH STREET ELEMENTARY SCHOOL

Milwaukee, Wisconsin

Darby, Bogner and Associates, Architects and Engineers

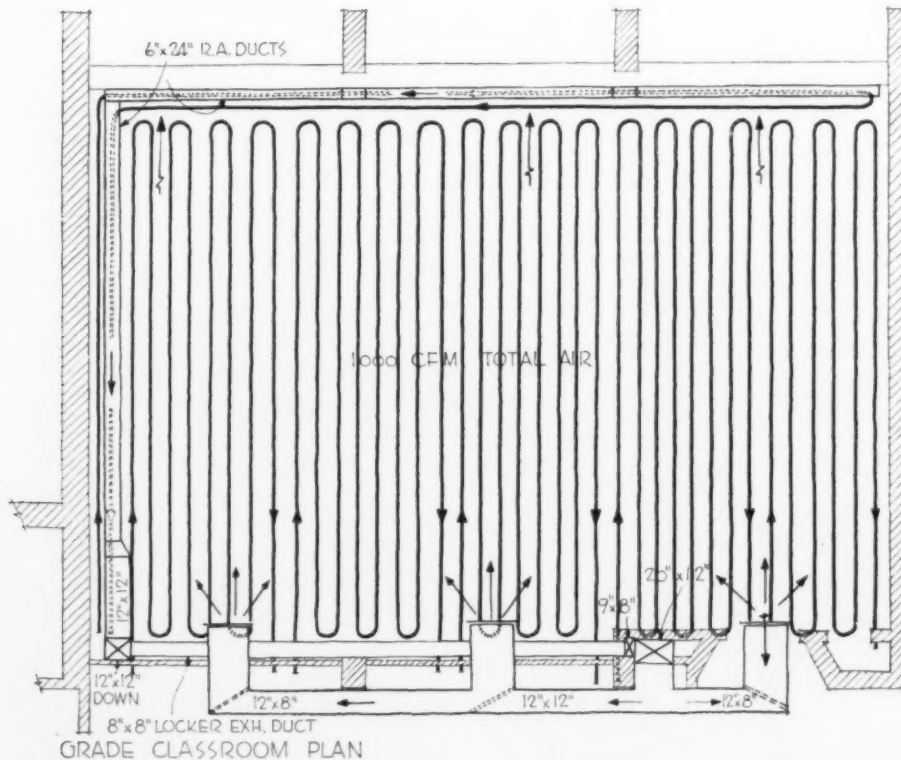
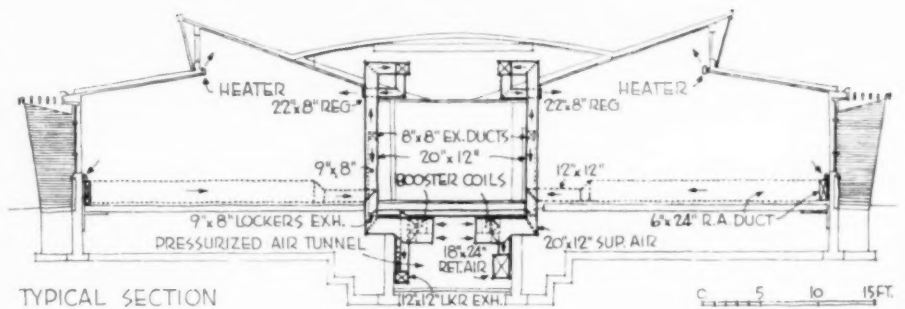
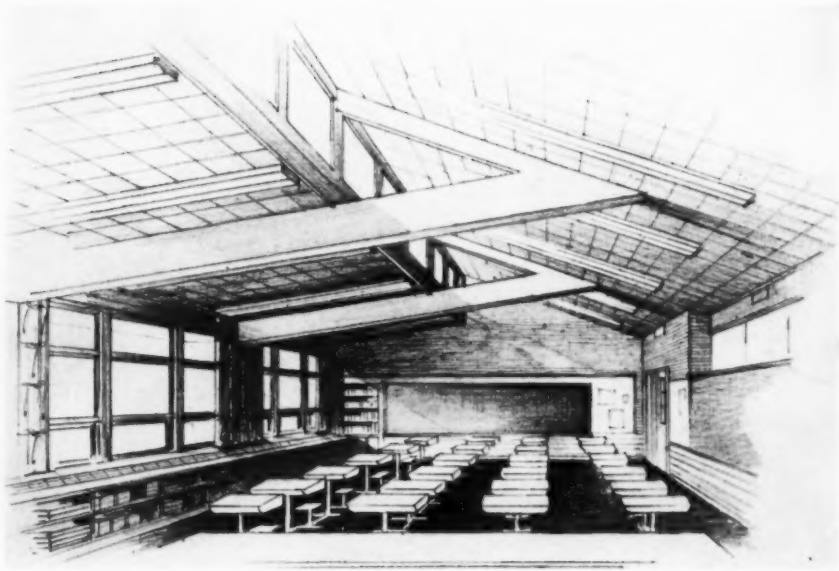


THE STRUCTURAL SYSTEM has been developed in this school to minimize the use of critical materials, and to integrate the mechanical equipment. The building has masonry wing walls supporting arched or flat laminated wood beams which carry a 4-in. thick wood unit deck. The deck serves as rafter, roof sheathing and insulation, and makes a slow burning type of roof construction. The wing walls also serve as sun baffles. Exposed brick walls separate classrooms, provide fire stops and minimize sound transmission. A butterfly-type clerestory introduces additional light into classrooms and corridors.

The school has no basement, with the exception of a pressurized air tunnel under corridors. This, together with a small attic space formed by the arched roof and clerestory framing, is used to house the extensive heating, plumbing and ventilating equipment.

II: ELEMENTARY SCHOOLS

The structure of the 95th Street School provides unusually close integration of the mechanical equipment with the building. (See section at right center.) Pressurized air tunnels below corridors supply tempered, filtered air to all rooms. Recirculated air is taken at the full length of the window stool grills to prevent a down draft of cold air from windows. Exhaust air is vented through lockers, corridors and toilets to the outside. Heating is by forced circulation hot water radiant coils located in the floor, and by convectors at the sill of the clerestory windows. This is supplemented by introduction of heat in the supply air stream of the ventilating system. All piping for water supply is also installed in the attic space and tunnel for convenient maintenance





General view of Jerusalem. Below: the maabarah (immigrants' camp) in Tiberias, overlooking Sea of Galilee, huts are thin aluminum

CONTEMPORARY DESIGN IN ISRAEL

PLANNING AND ARCHITECTURE

By Samuel R. Mozes
Member of Staff
Department of City Planning,
New York City

Photos courtesy Israel Office of Information



IN MODERN ISRAEL, building design and general physical planning are probably more closely integrated than anywhere else except England, and serious discussion of the one cannot very well be undertaken without attention also being paid to the other. Hardly any of the traditionally recognizable world styles in architecture exist in the land now called Israel. The great periods of building — Egyptian, Greek, Roman, Byzantine, Romanesque, Gothic, Renaissance, etc. — can be seen almost only in books and in some of the ancient ruins, of which not all have yet been dug out by archaeologists. Just as in other Near Eastern countries, the visible monuments of antiquity are of emotional and educational importance but not directly attached to the current creative life of the people.

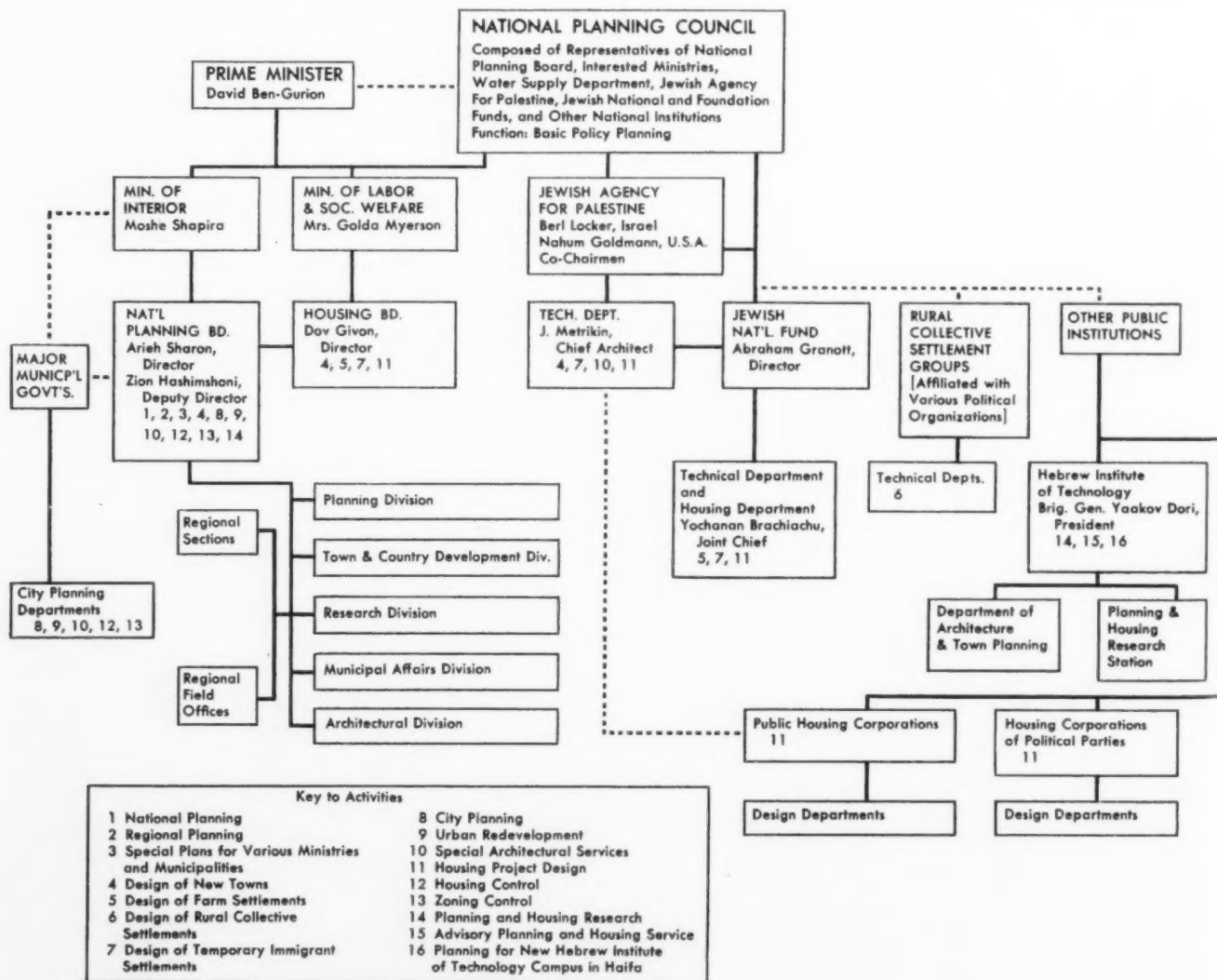
In the field of planning, however, new methods are applied to ancient sites and cities, and thus the old and the new co-exist and merge into an exciting unity. From the point of view of modern planning, Israel may be considered either the planner's nightmare — or his dream. The difficulties arise from the unusual economic situation, diversity of topography, population, resources, climate, etc. The benefits are due to the fact — not always true in the United States — that most, if

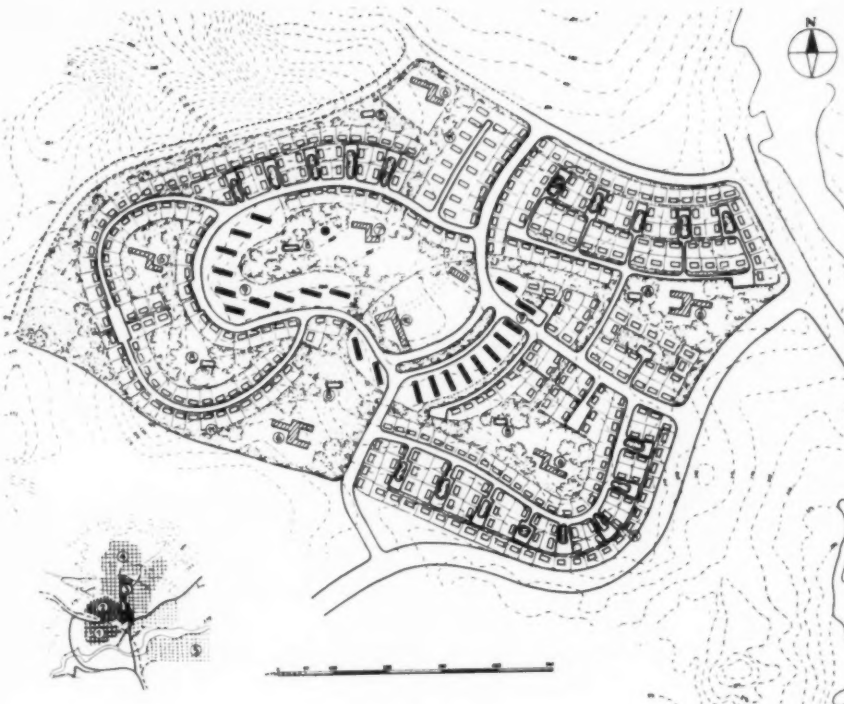
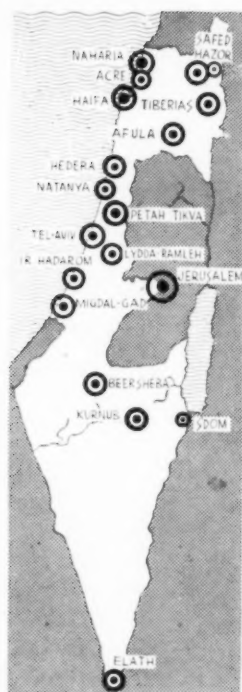
not all, good planning schemes have an excellent chance of being actually carried out.

Planning work is done by several different organizations, with a varying degree of cooperation among them. The first and foremost is the National Planning Board (which I shall call the NPB), a recent creation which is the result of a merger of two governmental units, the former Government Planning Department responsible directly to the Prime Minister and the former Town and Country Development Department. The new NPB is now a unit of the Ministry of Interior, though there is always talk and wishful thinking about an independent ministry for planning and housing.

I have drawn up an approximate chart of planning functions in Israel, shown below. It is by no means official or complete; its purpose is only to explain the complicated set-up of Israel's planning and housing activities.

I spent some time on study in the NPB offices in Tel Aviv and had the opportunity to interview its head, Arie Sharon, a distinguished architect who has continued private practice independently of his governmental service. Mr. Sharon explained that the NPB had three broad objectives: (1) general planning for the





Neighborhood unit planned as part of development of Beersheba into main center of Negev

whole country, including national transportation, location of new towns, national parks, etc.; (2) regional planning, including advisory services for larger cities and full planning services for smaller localities; (3) design of new towns and various specialized work for different departments of the government including architectural design, as may be required.

All public housing construction is planned and administered by the Housing Board, which is under the Ministry of Labor. The Technical Department of the Jewish Agency for Palestine, the chief organ of the world Zionist movement, works primarily within the limited sphere of design of new settlements and temporary living quarters for immigrants. Other important work in this field is done by the Jewish National Fund, various public and private housing corporations, planning staffs of different cities, private consultants and the Hebrew Institute of Technology in Haifa.

Cooperation and coordination among these different units for a long time has been considered unsatisfactory, and it can be readily seen on the chart that certain links are missing between the governmental offices on the left-hand side and the non-governmental organizations on the right-hand side. As a partial remedy the National Planning Council has been set up recently, with representatives appointed from all governmental and non-governmental planning bodies. It will act in an advisory capacity on fundamental questions of policy.

Israel's planning policy is based on certain basic considerations: (1) military defense; (2) rapid settlement of new immigrants arriving at a rate unprecedented in modern history; (3) development of irrigation and water resources; (4) general industrialization and development of specialized industry; (5) tourism.

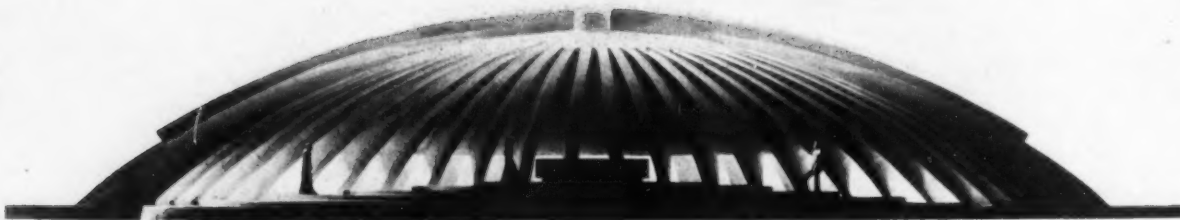
The NPB has tried first of all to encourage a decentralization of population and to achieve self-contained planning regions in all parts of the country. It will try also to create regional urban centers, where they do not now exist, for development of regional economy, administration, cultural life, etc. As far as new towns are concerned, the emphasis is on the neighborhood theory, combined with topographical considerations which in many places are strongly reminiscent of San Francisco.

The population of Israel on January 1, 1952 was 1,562,000, including 162,000 non-Jewish minorities; the NPB estimates that within the next ten years the population will have increased to about 2,500,000, roughly half the four-to-five million supposed to be the country's capacity at full development. Probably 35

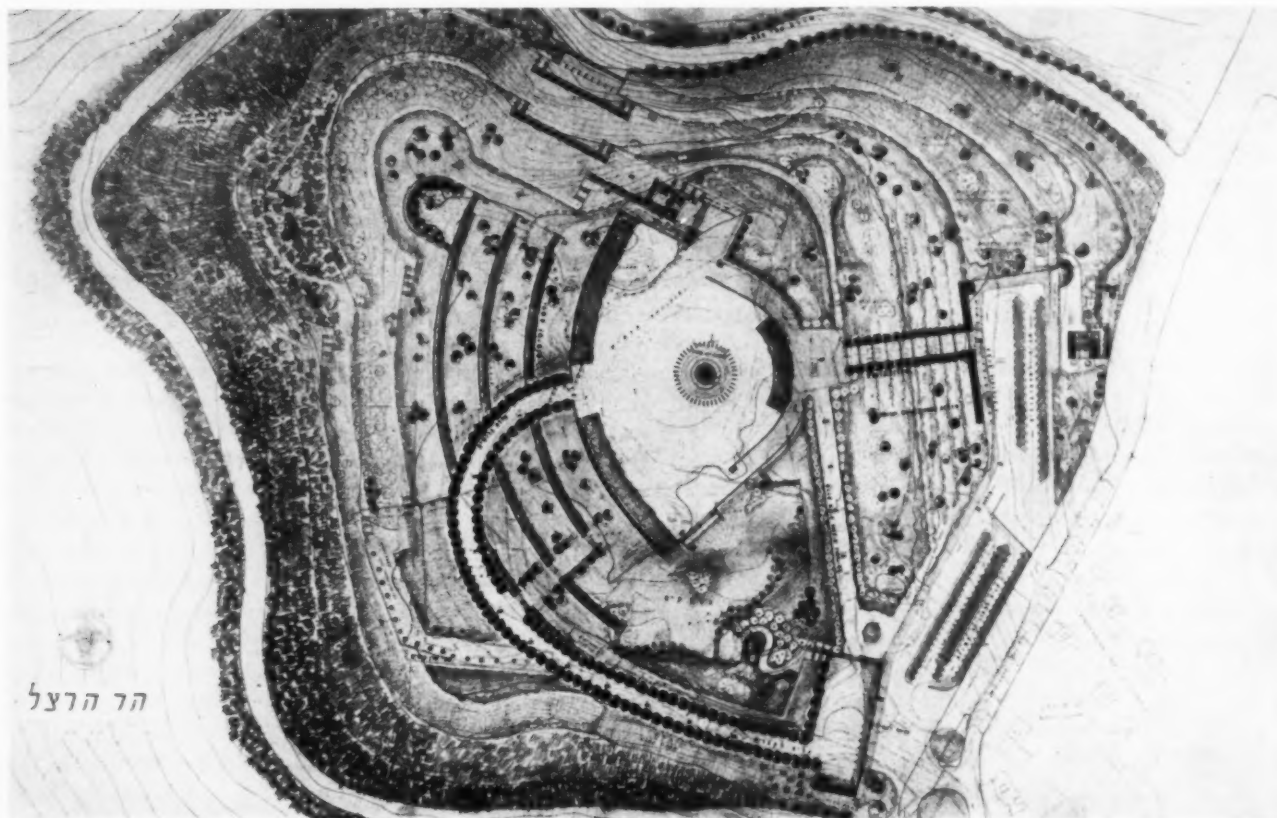
Courtesy Israel Office of Information



Port city of Haifa, where competition for a redevelopment plan for the Lower Town (business district) has been announced



Winning design for Theodore Herzl National Memorial Tomb, Jerusalem; Joseph Klarwein, architect. Below: site plan for Mt. Herzl, with Memorial Tomb in center (at summit)



per cent of the inhabitants will be engaged in light and heavy industry, 20 per cent in agriculture, and the remainder in trade, the tourist industry, etc.

The NPB anticipates that 40 per cent of the expected 2.5 million population will live in the three chief metropolitan areas of Jerusalem, Tel Aviv and Haifa, while the rest will be distributed in mixed agricultural and industrial regions. The country as a whole is to be divided into 24 regions of varying size, with each designed, as far as possible, to support an average of from 75,000 to 100,000 inhabitants. The gross neighborhood density proposed for urban centers is 40-50 persons per acre, and an estimated maximum of 50,000 has been set for new towns in regions which at present have no urban centers.

Israel's industrial and irrigational planning is so

complex that it can be covered only briefly here. It involves NPB-proposed "industrial estates," intersea canals, desert water-storage dams, lake drainage, agricultural water pipes, etc. The country's growth has been so rapid that it has far outrun the growth of transport facilities, and transportation by rail, sea and road is extremely difficult in most areas. In this field alone the government proposes (1) the construction of new roads to create a continuous chain of communication; (2) the improvement of existing roads through resurfacing, widening, and easier crossings, to adapt them to the increasing volume of traffic; (3) the re-alignment of routes in the vicinity of urban centers. (There are at present very few by-passes.)

The National Development Plan is concerned also with provision for national parks and forests, landscape

preservation, and protection of historic and archaeological areas. Natural assets, including Israel's many historic landmarks, are admittedly important to the country's development of its tourist trade; for this reason certain parts of the state will be set aside as "protected areas" — but in most cases such areas are suited only to afforestation.

For existing cities and towns, some of which date back to Biblical times, a more orderly growth is planned. In the port city of Haifa, for instance, the mayor, Abba Khoushy, has announced a competition for a redevelopment plan for the Lower Town (the downtown business district, partly destroyed during the 1948 Arab war). An important "private" planning project in the same city is the proposed removal of the Hebrew Institute of Technology from the business center: present plans call for an entirely new 250-acre teaching and research center outside the city limits, complete with a new town planning department with American teachers in charge; the architectural-engineering firm of Kelly and Gruzen of New York, New Jersey and Boston has opened branch offices in Israel for the design of the \$20 million project.

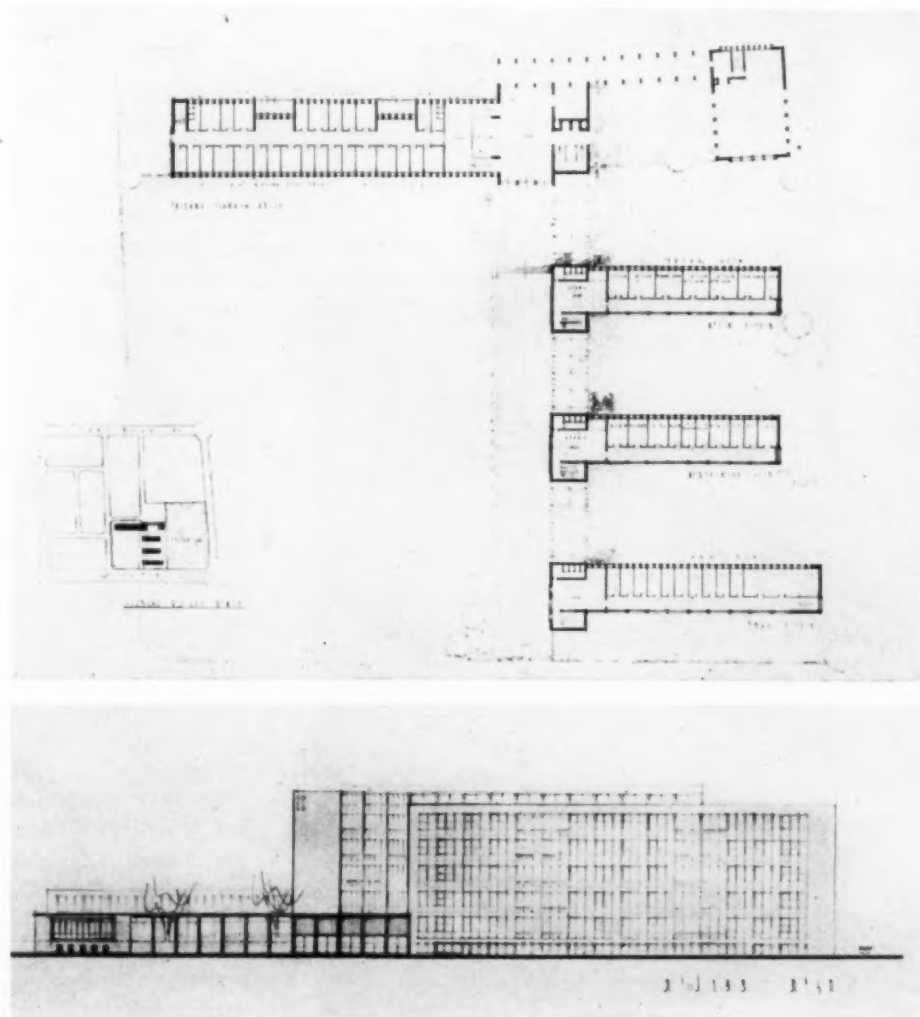
One of the most interesting of the city development

programs is that outlined for Jerusalem. Jerusalem, in the Hills of Judaea, the geographical as well as the political and spiritual center of the country, is very much like Washington, D. C. — a "specialized" city. Now as before, it is the center of government, of institutions of higher learning and various religious headquarters, and, incidentally, a health resort. (The Old City, containing the famous holy places of the three world religions, is now cut off and under the administration of the Jordan Kingdom.)

The NPB contemplates utilizing the hills and ridges of Jerusalem for residential purposes, while the lower lands are to be converted into functional green belts, parks and recreation areas. The green *wadis*, continued as far as outlying mountain ridges, are to serve also to emphasize the topographical location and landscape values of the city. There is furthermore a provision for slum clearance, particularly acute in the neighborhoods of the extreme orthodox population, and for creation of new traffic arteries which will pass along the green belts.

The NPB has prepared plans for a dozen other cities in Israel. There is, for instance, an excellent plan for almost doubling the city of Tiberias, including a lake front resort development and a modern commercial and

Right: the Vaad Hapoel House, Tel Aviv, headquarters of the Central Council of Trade Unions. Designed by Dov Karmi, one of Israel's best-known architects, the reinforced concrete building is now under construction; it features an assembly garden on roof. Tel Aviv, once called by Sir Patrick Geddes a "perfect small city," now badly needs redevelopment and replanning, having been allowed to "just grow"



S. R. Mozes



Above: the Histadruth Building, Haifa, headquarters of the Israel General Labor Federation; Al Mansfeld, architect. Bridge joins second floor to higher-level street. Below: the Solel Boneh Building, branch headquarters of largest trade union construction organization; Dov Karmi and Arie Sharon (NPB head), architects



industrial quarter, with the city's population expected to increase from 9000 to 50,000.

Generally, the tendency of the NPB technical staff is to correct certain excesses in modern planning as experienced in Israel in recent years. The enthusiastic desire to follow what had been considered modern road design in western countries, especially in the layout of new towns, had caused Israeli planners to introduce perhaps too many complicated road curves and loops. Now they try to propose simpler housing group schemes, straighter roads and less involved intersections.

The same tendency toward simplicity has manifested itself in Israeli architecture generally, but strange as it may appear, the population of Israel is apologetic about the "modern" appearance of their buildings. They do not feel certain that the "shoe box design" (and sometimes it is really such), which they have rarely been taught to understand, is either "decorative" enough or actually expresses their own life and aspirations. On the other hand, the architects and planners themselves represent one of the most progressive groups of professionals to be found anywhere. If they do not always succeed in producing the best in contemporary design it is not because they lack understanding and technical ability, but because they are hampered by the ever-present problems of economics and material shortages.

The largest structure in Israel and, as I was told, in all the Middle East, will be the Convention Center now under construction in Jerusalem, called the "Houses of the People." Designed by the office of one of Israel's foremost architects, Zeev Rechter, at the instance of the Jewish Agency, the Center is conceived as a sort of "representational" national palace. The main structure will be the Congress and Exhibition Building, 94 ft in height with a floor space on all levels of 232,000 sq ft, situated on one of Jerusalem's highest hills, 2500 ft above sea level, commanding a magnificent panorama of the entire region, and bordering the site of the new government office district (though not harmoniously coordinated with it). This is the site occupied by the famous Tenth Roman Legion garrisoned at the city at the time of the destruction of the Second Temple; Roman relics found during the excavations — including mosaic flooring, a well and a brick kiln — will be preserved for future exhibit.

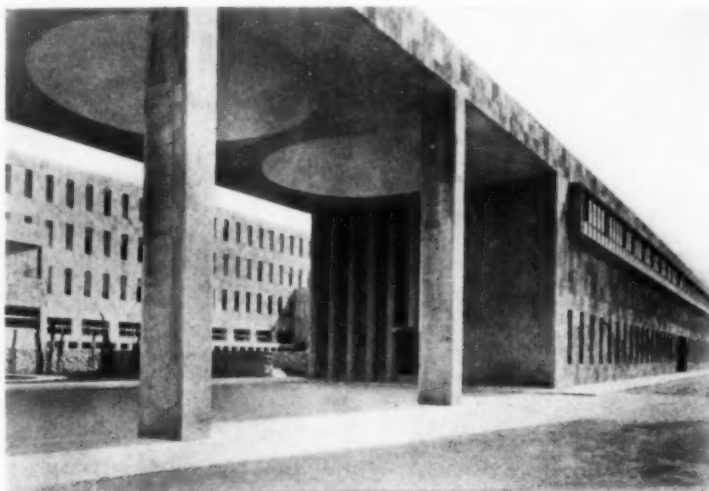
I visited the Center during its late construction stages and was impressed by the imagination of its designers in satisfying all conceivable requirements of modern mass assemblies, in surroundings of a virtual desert and technical backwardness. When the buildings are finished they probably will approach the design, in terms of techniques, modern materials and usability, of London's Royal Festival Hall. But I noticed that there was something strangely familiar about the overall appearance of the Convention Center, which was foreign to the place and perhaps to the purposes intended. I finally realized that, in plan and in mass, its main structure follows the design of the United Nations Assembly Hall in New York — a design which may or

may not be suitable to a city like Jerusalem, thousands of miles away, and to the use of the newly "ingathered" people of Israel.

The open-air amphitheater adjoining the Congress building was designed by L. Krakauer, an architect in Haifa. It is expected to play a spectacular role in the formal opening of the Center, scheduled for 1953.

A near-by hill, now called Mt. Herzl, is the site selected for a memorial to Theodor Herzl, founder of modern Zionism. An international competition for the design of a memorial tomb was held, and judged by an international jury which included Prof. Percival Goodman of Columbia University's School of Architecture. From the 63 plans submitted by architects and sculp-

Courtesy Israel Office of Information



S. R. Mozes



Above, left: Hadassah Medical Center, Jerusalem, by Joseph Neufeld, is surrounded by Arab sections, hence closed to Israeli use. Above, right: 700-bed main building of Belinson Hospital, Petach Tikva; Arie Sharon and Benyamin Yidelson, architects

tors from 11 countries, the design of Joseph Klarwein of Jerusalem (a professor in the Haifa Institute of Technology and now executive architect for the planning office of a new governmental compound in Jerusalem) was awarded first prize. Secondary prizes went to two Americans: Sumner B. Gruzen and Associates, mentioned above, and O. Nitschke, of New York.

Mt. Herzl is one of the principal attractions for visitors to Israel. The ascent to Herzl's grave from the city proper has been designed as an easy and comfortable incline overlooking the suburb of Ein Karem. Vast parking facilities will be provided at the foot of the mountain. There will be no tree planting above the plateau on which the Herzl monument is to be placed. Adjoining the monument area is an impressive new national military cemetery where Israeli soldiers who fell during the war of 1948 are buried.

Another important public structure, just opened, is the imposing Zionist Organization of America House, designed by architects Ibn Gabirol, Rosenblum and Dubnow. Situated near Tel Aviv's Civic Center, and covering 1½ acres, it is a spacious combination tourist center, club, restaurant, and public meeting and educa-

imaginative and advanced medical establishment. It consists of free-standing independent one-story buildings, each designed for a different hospital function, and connected with its own parallel surgery section — from administration quarters and research center through maternity and pediatrics, to general kitchen and service facilities. All buildings are joined by two-leveled covered walks permitting direct access without cross-traffic.

Another medical building which particularly impressed me was the nursing unit planned for the new University-Hadassah Medical Center hospital in Jerusalem. Designed by Joseph Neufeld, this unit is based on the idea that the entire nursing core of the hospital will be on the average not more than 50 ft from the farthest patient's bed.* The Center now still in the planning stage, is to be composed of three major units: new quarters for the Henrietta Szold School of Nursing; the 430-bed Rothschild-Hadassah University Hospital; and the University-Hadassah School of Medicine, which only recently began partial operations in temporary facilities.

(Text continued on page 370)

* See ARCHITECTURAL RECORD, Aug. 1951, p. 11.

Nursery in En Shemer, designed by architects of Rural Collective



High school and military fort, Mishmar Haemek, Joseph Neufeld, architect



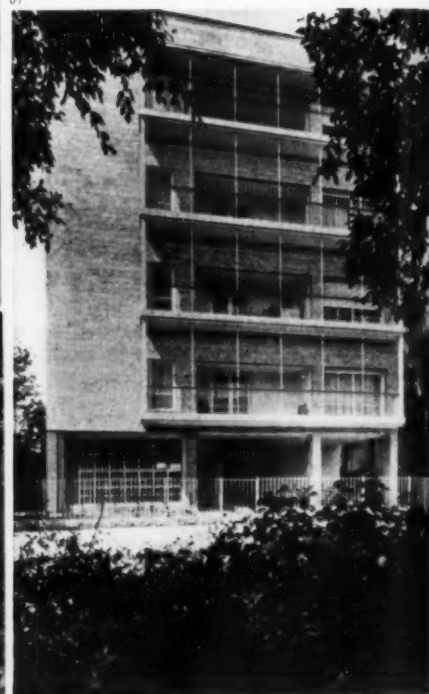
Open corridor of boys' dormitory in En Shemer, by same Rural Collective



Apartment house, Tel Aviv, Dov Karmi, architect. Open ground floor is typical

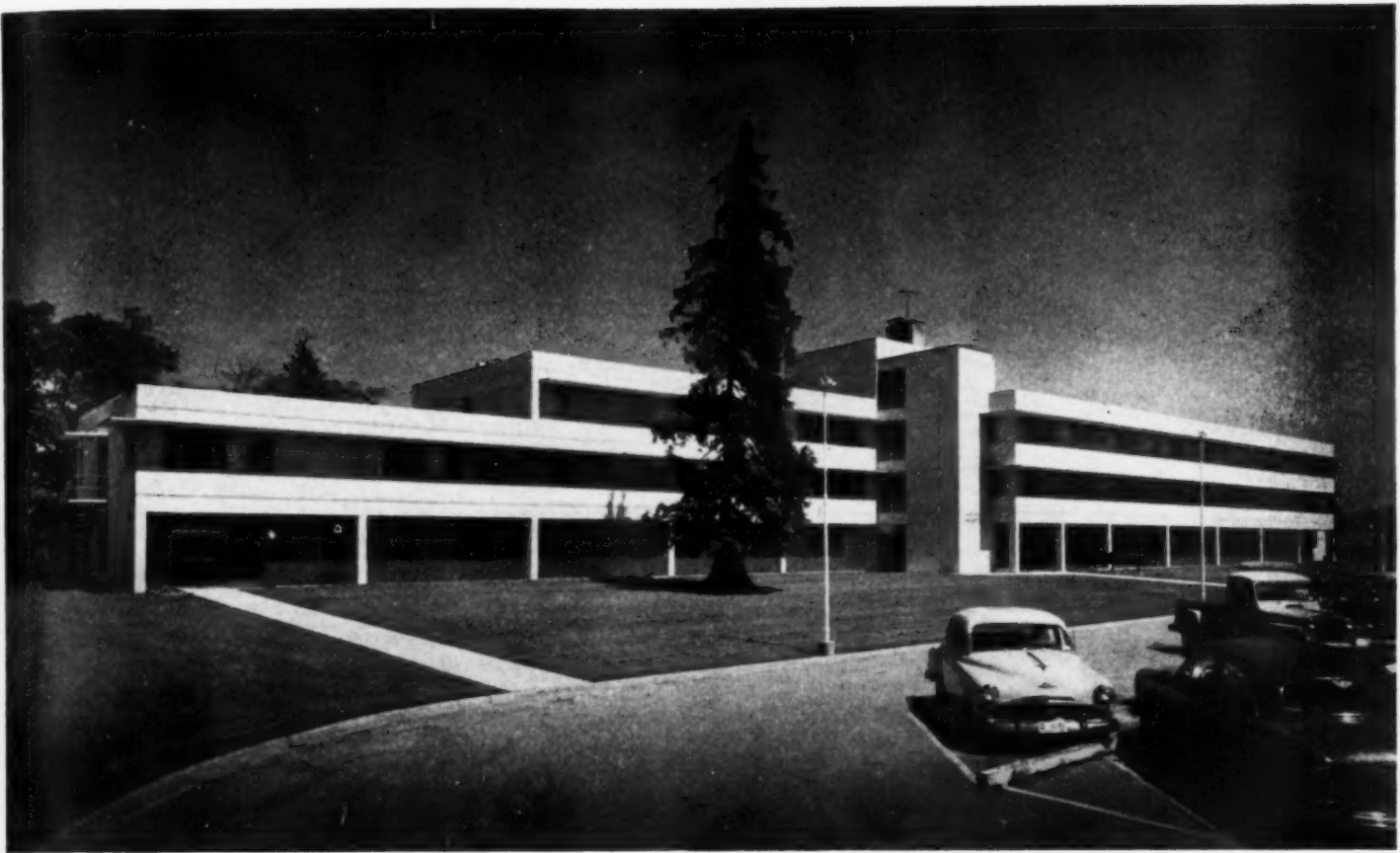
S. R. Mozes

I. Kalter



Above: another Tel Aviv apartment house by Dov Karmi; balconies are another typical feature of Israeli apartments. Below: business center in Haifa





Kenneth S. Brown

100-BED GENERAL HOSPITAL ON 150-BED CHASSIS

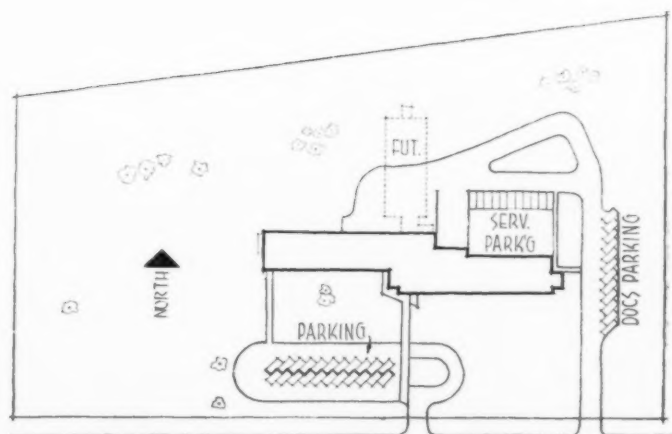
Olympic Memorial Hospital, Port Angeles, Wash.

Gerald C. Field, Architect

THIS HOSPITAL was a long time in the building; it was in 1862 that the site was reserved for hospital purposes, when the federal town site of Port Angeles was established by act of Congress, signed by President Lincoln. If delayed in realization the original foresight was good: the hospital was badly needed, and the site proved an excellent one. Each patient room gets some sunshine during the day, and each has an inspiring view of the Olympic mountains or the Straits of Juan de Fuca.

The building follows what almost amounts to standard practice these days, in that it anticipates the addition of an additional 50 beds (it has 100 now) without enlargement of its basic facilities.

The scheme uses double-loaded corridors — patient rooms on both sides — to a certain extent. The offset wing disposition was to maintain the required separation of medical and surgical nursing wings on the second floor, the maternity and operating suites on the third floor, and the adjunct facilities, administration and



Majority of patient rooms are on south side, have protection of 4-ft concrete sunshade; first floor is recessed 5 ft



Building is of reinforced concrete throughout, with slab floors and walls. Color in pastel shades has been used within and without. Draw curtains, behind the continuous aluminum windows, were chosen to give color accents

dining rooms and other services on the ground floor.

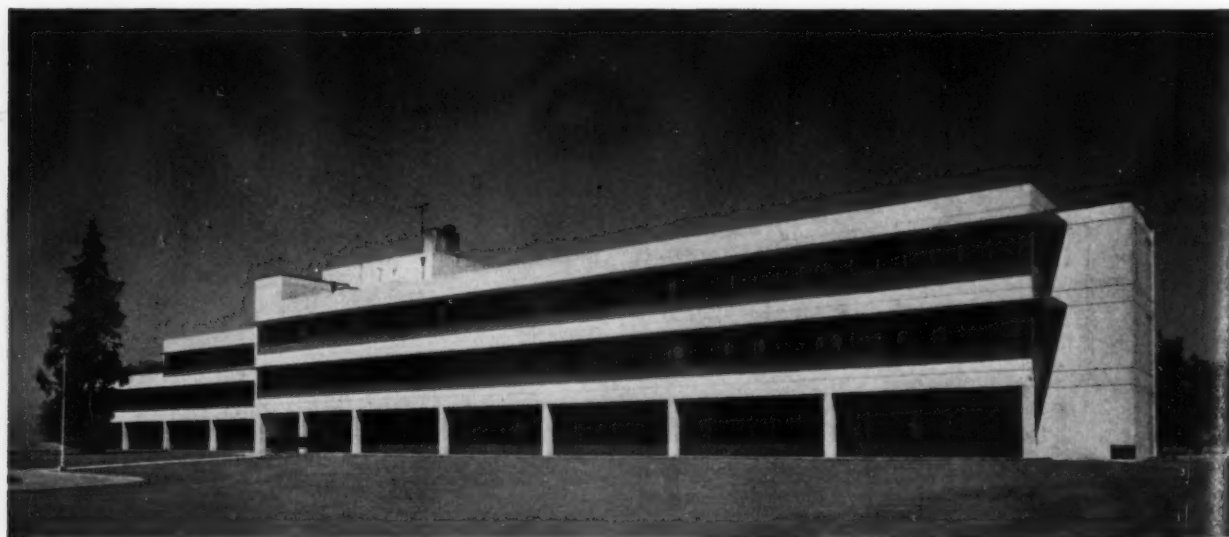
In this hospital there is perhaps more separation of adjunct facilities than in many others, for the reason that the out-patient department is operated by the county and has its own examining and treatment rooms and laboratory, but has joint use of the hospital X-ray, E.K.G. and B.M.R. facilities. Health clinic has its separate entrance at the end of the first floor.

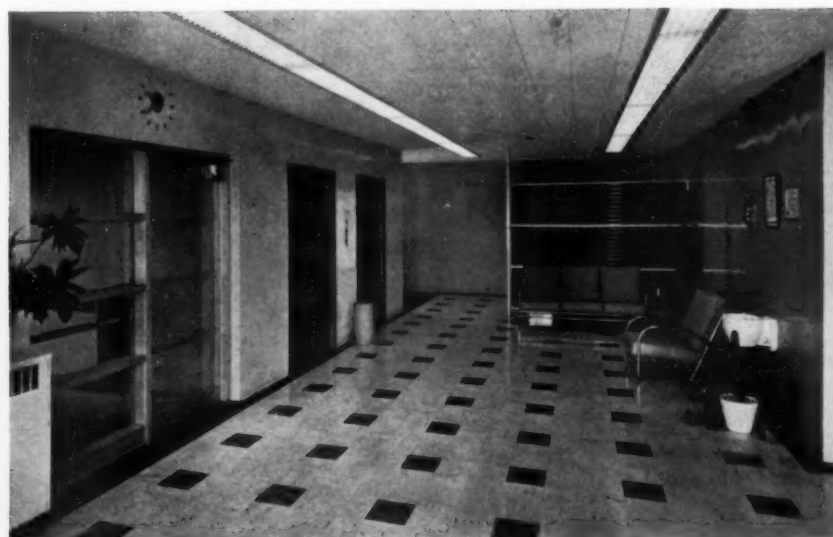
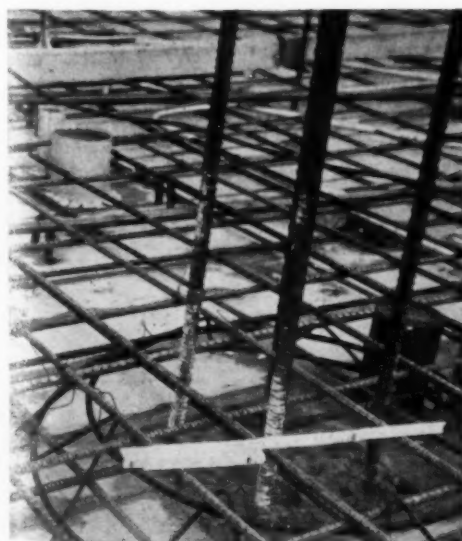
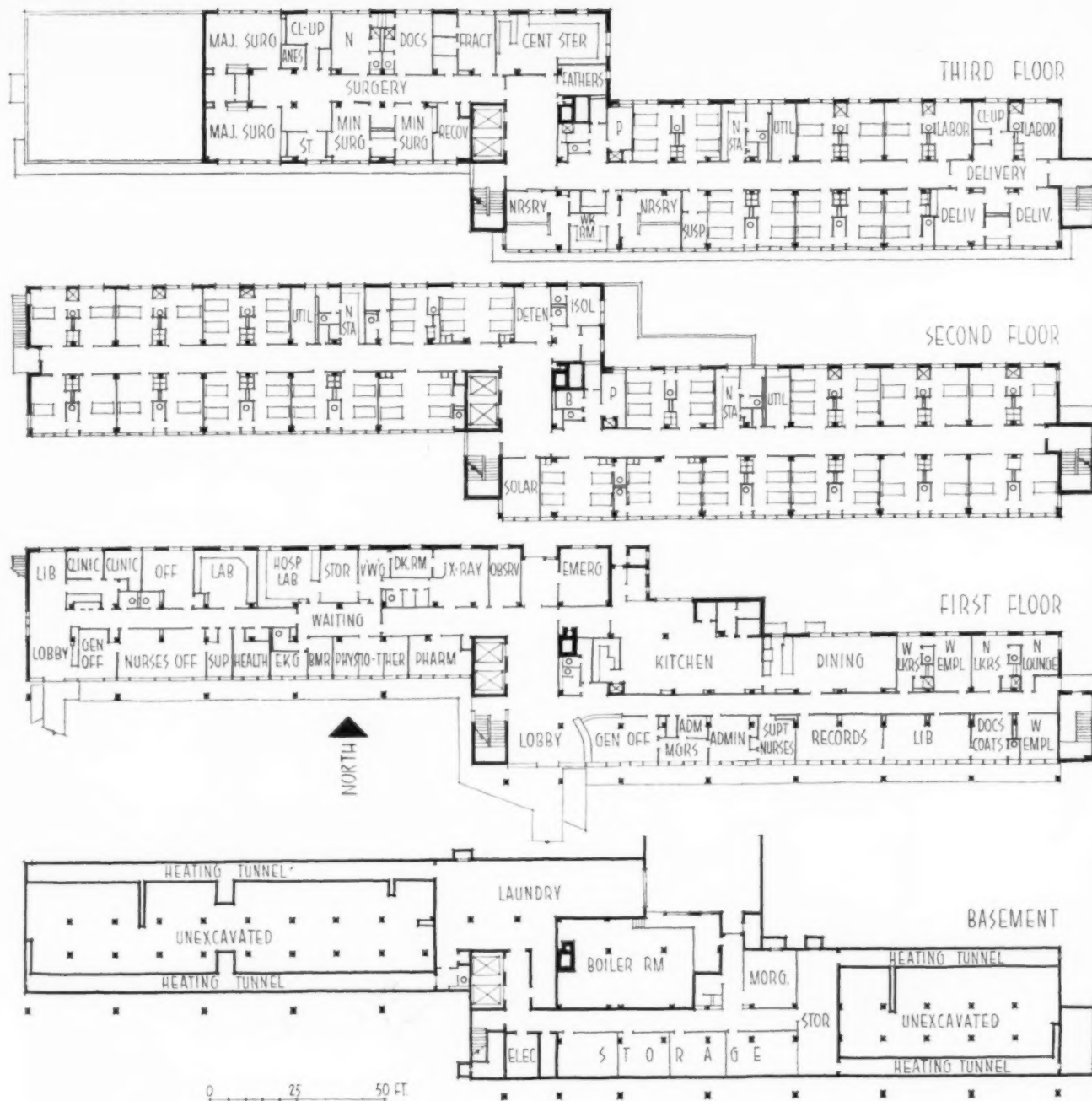
The building is of reinforced concrete throughout, including flat slab floors and walls. The ceilings in the patients' rooms are unplastered and are treated with textured casein paint. In other areas plastered or false ceilings are provided. Structural provisions were made for the addition of a wing at the center rear of the building, and the structure was designed for a fourth floor covering the entire area of the third floor.

The principal structural feature of the hospital is the flat-plate framing system. A 6-in. slab was used on the main floor, without drops or beams, to give a completely smooth ceiling, with obvious advantages to architectural, mechanical and electrical work. Steel installation was simplified by laying a mat of $\frac{1}{2}$ in. round bars 12 in. on center each way in the bottom of the slab, with additional straight bars in the longer column strips. Top bars were all straight and placed to suit the bending moments. The moments were determined by frame analysis. A distinctive feature is the shearhead shown on the accompanying photograph. This was used at the columns with longer adjacent spans. It proved much more satisfactory than the crossed structural steel members formerly used by structural engineers and allowed the use of a thinner slab.

The cost of the hospital, including general, electrical and mechanical work which were let in three separate contracts, together with the architect's fees, amounted to \$904,000, giving a cost per sq ft of \$19.73; cost per cu ft, of \$1.88. This includes driveways, parking areas, landscaping and all Group I equipment. Group II and III equipment cost \$106,000.

Kenneth S. Brown







Nurses' station is near center of nursing wing



*Patients' rooms are bright and colorful.
Nursery is entered only through work room*



Kenneth S. Brown



Above, left: lobby and library of the health center, at west end of first floor, separately operated by the county. Above, right: one of the two laboratories, first floor. Below: one of major operating rooms





SHOWROOM AND OFFICES FOR STANDARD RUG COMPANY

Fort Wayne, Indiana

*Sidney H. Morris & Associates, Architects
A. M. Strauss, Associate Architect*

A REMODELED THREE-STORY BUILDING in a midwestern town is the new home of this company's showrooms and offices. The interiors have been designed to present merchandise in surroundings similar to those which will ultimately be used — even to installing a model kitchen on the mezzanine. The front of the building consists of a recessed glass window wall, and the area above the window display is fitted with a louvered ceiling, from which hanging elements may be suspended. One of the side walls has been coolly treated with Roman brick, a pleasant contrast to the warmth of the coverings. Trick lighting provides "drama spots" for highlighting those displays demanding special attention. Walls have been left unadorned to create a neutral background for the various displays — an important feature considering the variety of patterned materials to be found throughout the merchandise. Linoleum, asphalt and rubber tile and scatter rugs are on the main level, which has linoleum flooring for serviceability and also to illustrate its overall appearance. The second floor contains carpet displays, with furniture groups forming suitable backgrounds. Wash rooms are also located on this floor. The contract department on the mezzanine is convenient to showrooms above and below. The entire basement has been given over to storage space, and that part of the third floor not occupied by offices provides additional storage facilities.

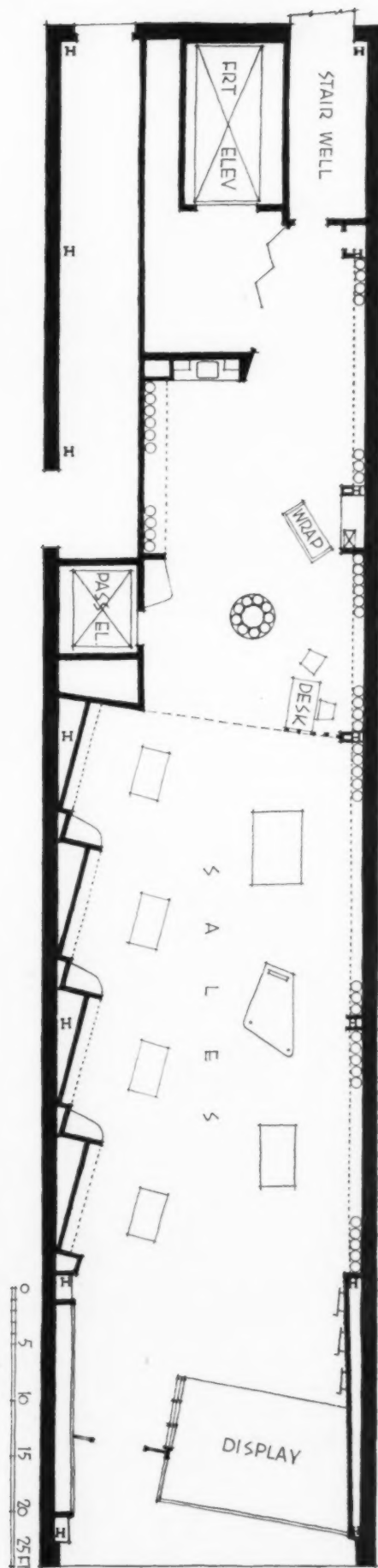


First-floor plan, right, indicates extremely long and narrow floor space and how otherwise monotonous wall lengths have been broken by angular placement of display tables and cases



Hedrich-Blessing Studio

Top photo shows second-floor carpet showroom, with displays in furniture settings as well as on rollers. Lower illustration is of mezzanine, which has railing of linoleum plaques to provide sales appeal and decorative effect





MULTI-PURPOSE HALL MEETS COLLEGE NEEDS

Alumnae Hall, Cedar Crest College

H. F. Everett and Associates, Architects



Although new hall broke with Cedar Crest's traditional architecture, exterior walls of buff brick were chosen to match brick of existing campus buildings. Doors and window sash are aluminum. Above: little theater

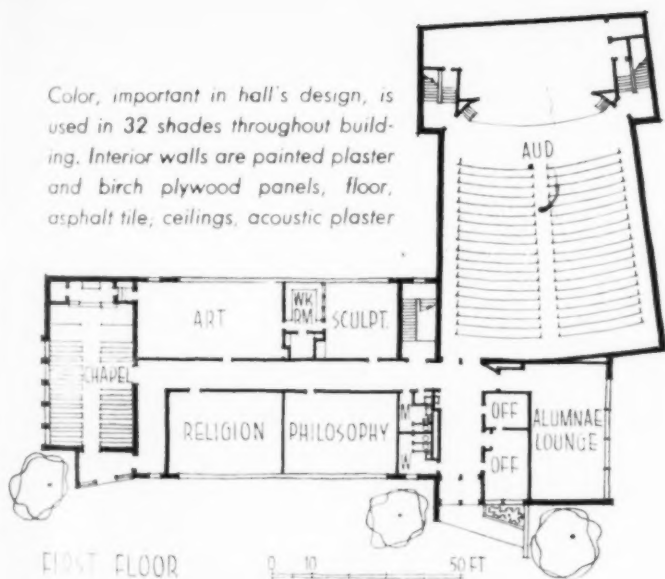
BY 1949 Cedar Crest, a small college for women founded in 1867 and located in the gently rolling country of Allentown, Pa., had outgrown its classrooms and dining-assembly-hall — and had only a limited budget with which to solve its problem. The solution — Alumnae Hall — is a story of the success with which a multi-purpose design not only met the need for both auditorium and increased classroom space, but also provided overdue student, faculty and alumnae facilities. A sloping site on the 104-acre campus was utilized for a two-level building combining auditorium, religion and philosophy classrooms, the art department, alumnae offices and lounge and chapel on the first floor. The ground floor, beneath the auditorium, houses a little theater, music-dressing rooms and faculty offices. [Economy called for the low, utilitarian design of structural steel framing and steel joists with reinforced concrete slabs — a distinct departure from the traditional Spanish Colonial Architecture of the existing campus; harmony was achieved through exterior walls of buff brick matched with the buff of the earlier buildings. Cost of the 375,000-cu ft structure in 1950 came to approximately one dollar per cu ft. With the present enrollment of 364 students expected to increase to 500, the new flat-topped hall was constructed to support another story above the entire first floor.



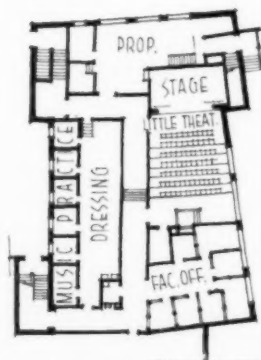
Edgar T. Clewell



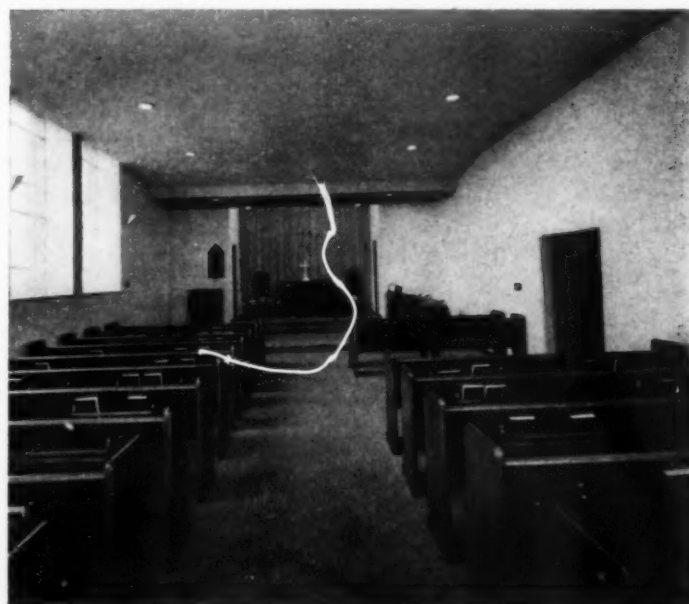
Color, important in hall's design, is used in 32 shades throughout building. Interior walls are painted plaster and birch plywood panels, floor, asphalt tile, ceilings, acoustic plaster

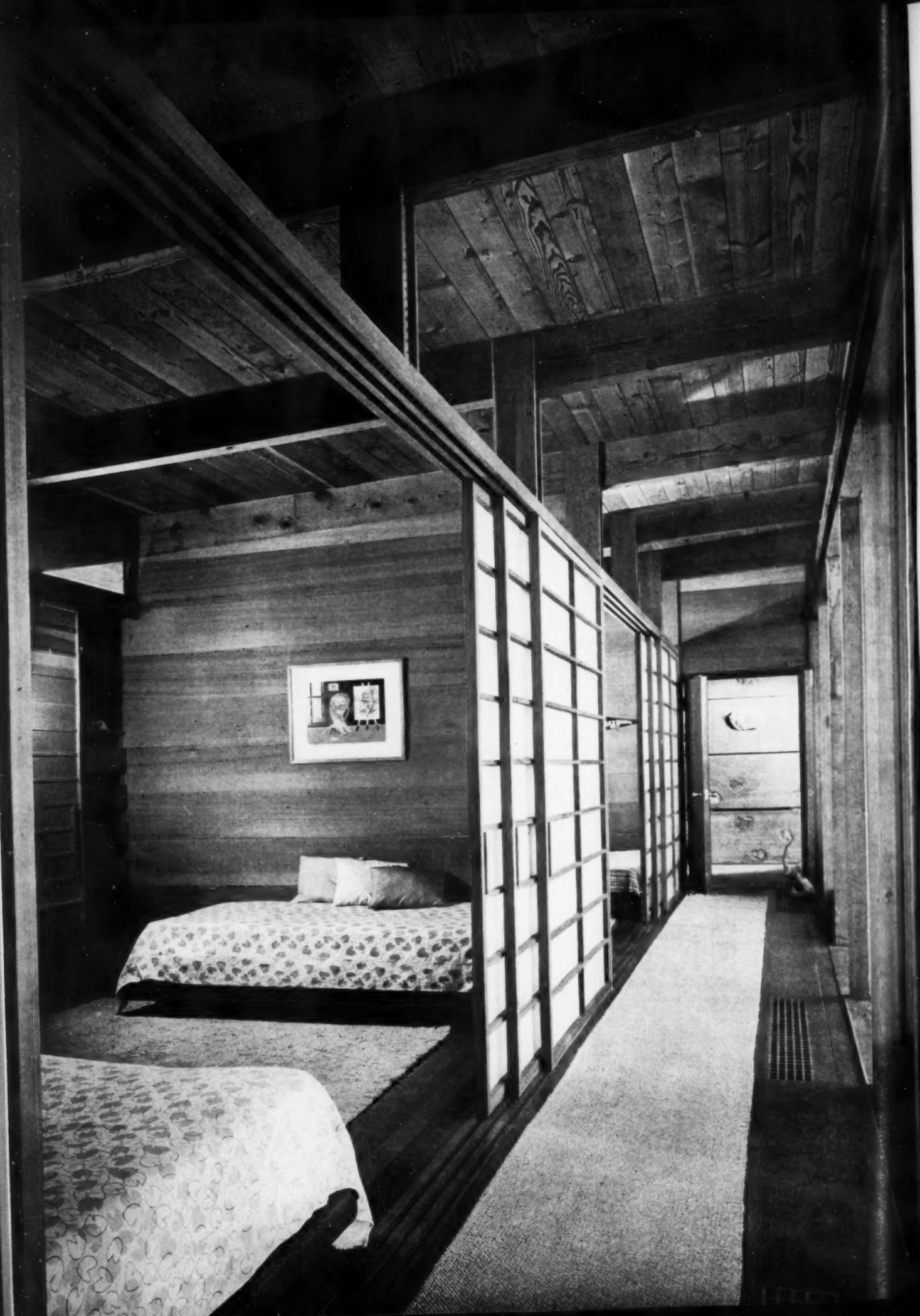


Auditorium (above) with 502 fixed seats and space for 100 or more movable chairs also serves Allentown's population



Rectangular Lees Memorial Chapel (right), seating 114, is furnished with walnut pews; tinted glass windows later will be replaced with stained glass







AN ARCHITECT'S HOUSE IN THE COUNTRY

The Winston Elting House, Libertyville, Ill.

Schweiker and Elting, Architects

Franz Lipp, Landscape Architect

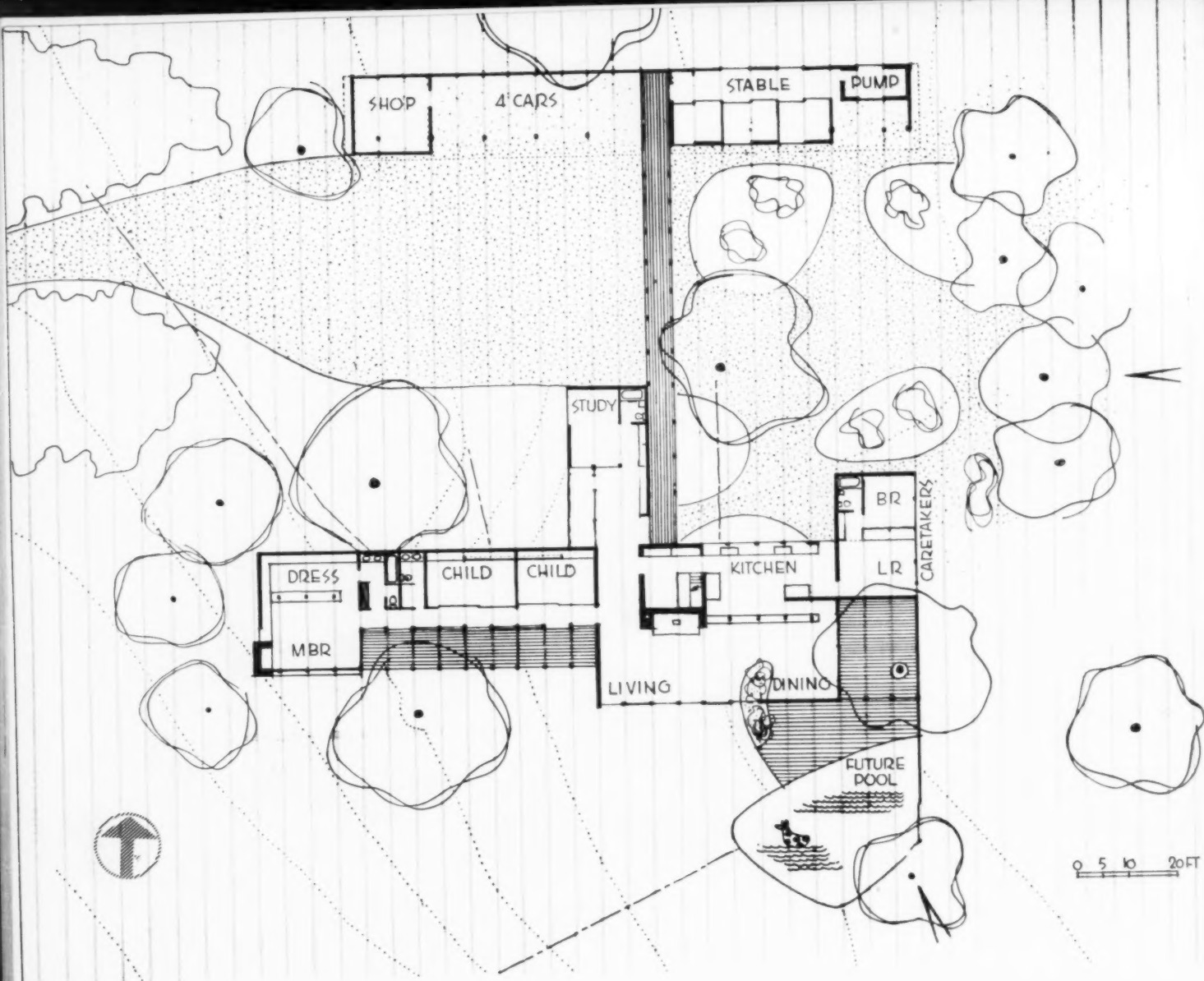
S. R. Lewis & Associates, Heating Engineers

SEVERAL DECADES AGO we can imagine the design for a country house on a scale as large as this spending most of its resources in creating an impressive façade. Today, as evidence that the new architecture has begun to assert its philosophy, we see this big house quietly spreading out in an open, informal arrangement rather than rearing up to impress its neighbors and insult the landscape. Here we find a concern for a more sincere approach to planning, orientation, expression of structures and materials, with the emphasis on pleasantly informal country living and quietly expansive entertaining. The result is a house that skillfully identifies

its owner with the rusticity of the countryside by way of a sophisticated contemporary design.

The owner says, "The decision to move from the suburbs and build in the country was made . . . not only because of a wish to participate in country life as much as a farm of 21 acres would permit, but also because of the opportunity for planning freedom and experimentation that an architect-owner combination permits."

The site was obvious to the owner from the beginning; a slight rise in the fields boasting four fine old oak trees. The approach from the west (above) reveals a gracious one-story house that reaches a lean finger out between



Bill Hedrich, Hedrich-Blessing



ARCHITECT'S COUNTRY HOUSE



Left page: house from southeast looking towards terrace

Above: covered walkway to the stable building at right

the trees to link itself with the low-lying stable to the north. This horizontality gives the structure a feeling of serenity and relates it subtly to the softly rolling meadowlands about.

The large photo on page 168 more or less synthesizes the interior character achieved; the open feeling, the exposed structure within its modular discipline, the natural wood ceilings, walls and floors. This theme is consistently repeated throughout, the wide use of wood being a personal choice of the owner which dictated the structure and to a lesser extent the plan.

The plan is organized about a structural system of beams and columns spaced 5 ft 4 in. on centers; is open and elongated in character, representing the culmination

of the architects' development of the "outward-looking" plan, which includes the outdoors by open exposure rather than by making it an inherent part of the building itself. The main house is essentially a long east-west rectangle with south exposure, entered near its center. It features a 48-ft long area subdivided by an indoor-outdoor planting box into living and dining spaces which expand into a tree-shaded terrace which in turn will be flanked by a future pool. The bedroom wing, semi-closed on three sides, has large sliding glass panels opening to a covered gallery looking out over the meadows beyond. The servant couple's apartment faces east to a view and adds the bonus of pleasing orientation and privacy to its occupants' salaries. A study-guest

ARCHITECT'S COUNTRY HOUSE

Living-dining room floor is 2 by 4 fir planks in natural finish separated by $\frac{3}{8}$ in. fir strips stained dark. East terrace beyond and at same level has a floor of similar planks with open $\frac{3}{8}$ in. joints. Resulting effect is the apparent continuation of floor pattern indoors and out

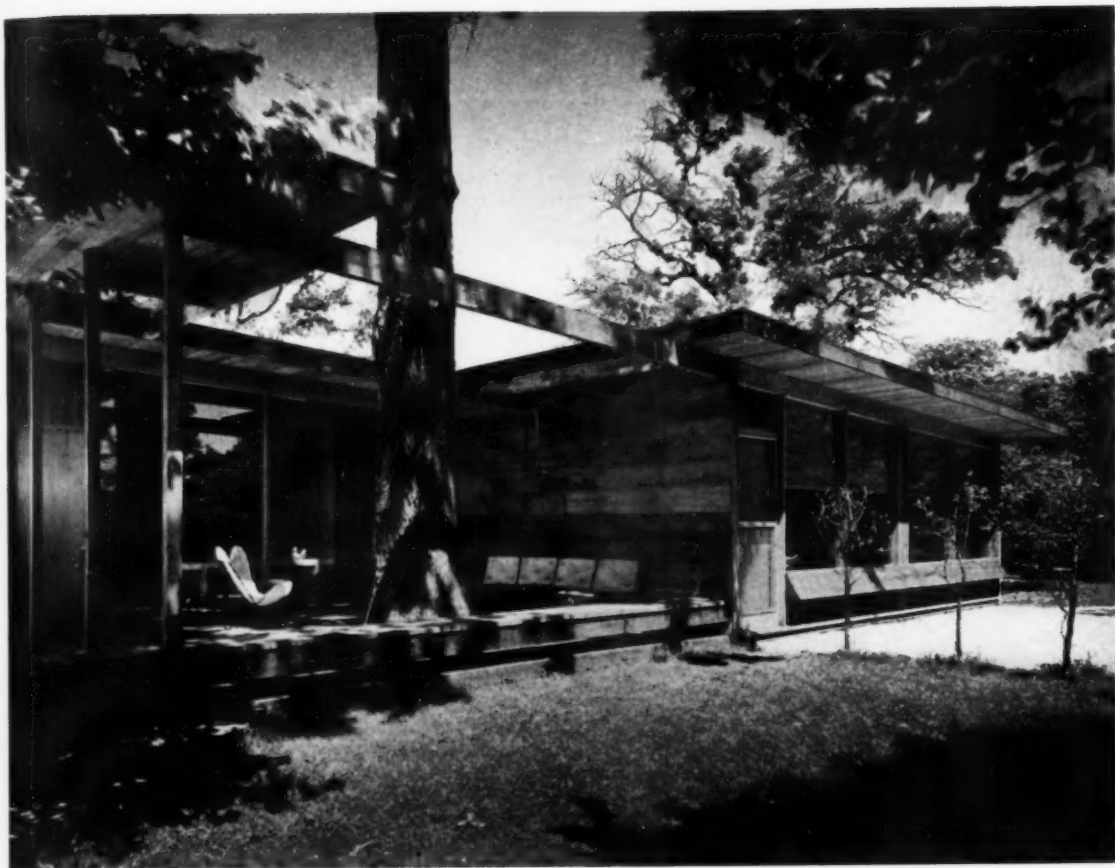


room and bath is located north of the entrance for privacy near the point where the 46-ft covered walk to the stable begins. The stable building houses stalls for three horses, a garage, car shelter, feed room, hay storage and pump house.

The exposed structural post and beam system is of Douglas fir timber with a 2-in. plank roof and finish floor, also of fir. Non-load bearing interior and exterior walls are of 1 by 12 rough-sawn redwood. All doors, millwork and built-in cabinets are of redwood. The terraces and covered walk have open plank floors. The built-up roof on plank insulation is topped by the same red gravel that is used for the entrance court and paths

of the garden court separating house and stable. Split granite boulders were carefully selected and placed in the forms for the concrete fireplaces and chimneys to create a pattern furthering the relation of the house to the land. Fixed glass panels are double glazed; movable panels are plate glass.

Natural ventilation is achieved by sliding glass doors on the south exposure, bottom-hinged glazed sash to the north, and by hinged wood panels behind louvers in the master bedroom and servants' apartment. Heating is by low velocity forced warm air split into four zones, each thermostatically controlled, with individual outlets also manually regulated.



Bill Hedrich, Hedrich-Blesing





ARCHITECT'S COUNTRY HOUSE

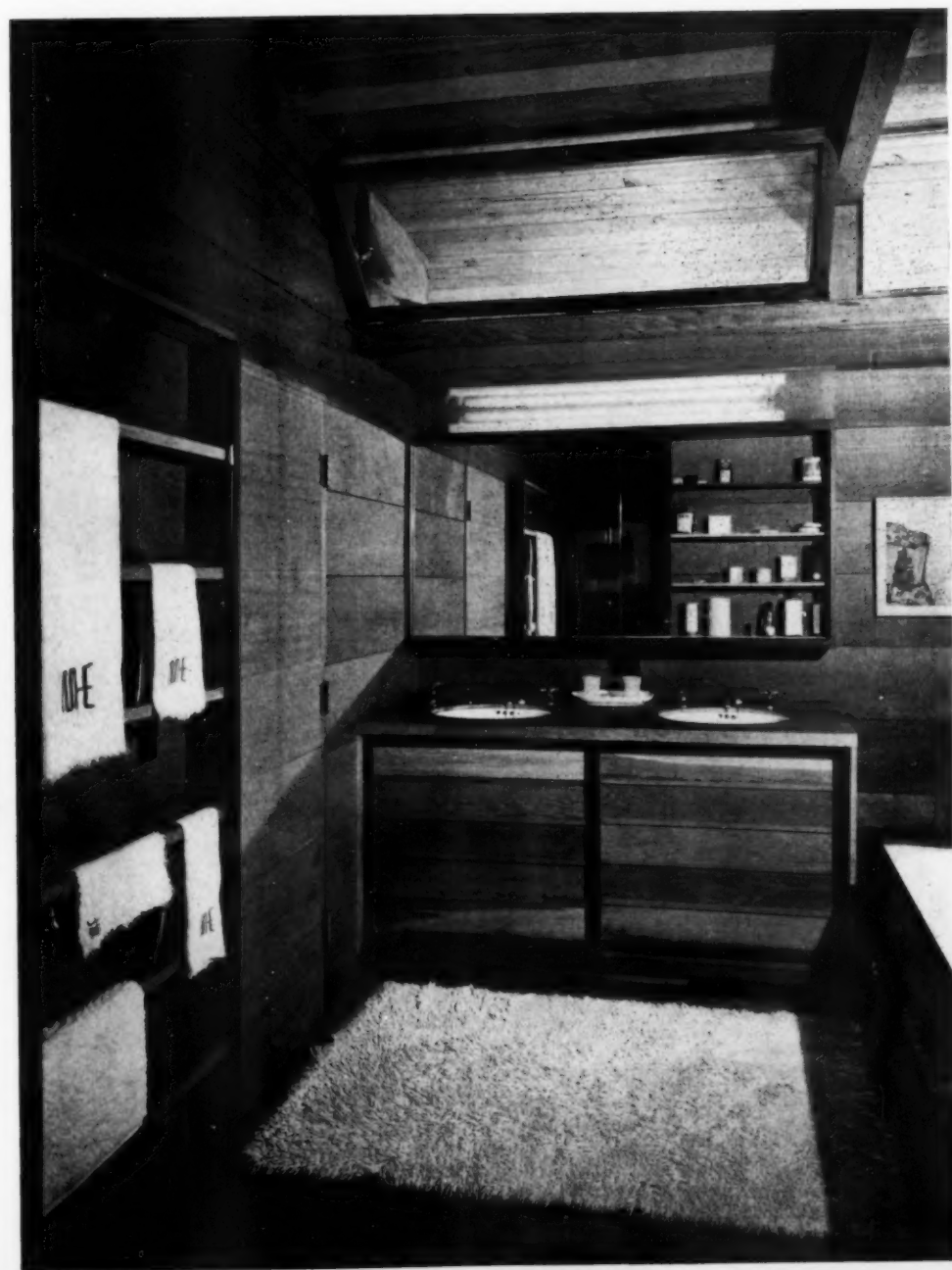
Above: view from a child's bedroom looking across gallery to the view

Right: large sliding translucent panels create the effect of two rooms which are separated from but still remain a part of the bedroom gallery

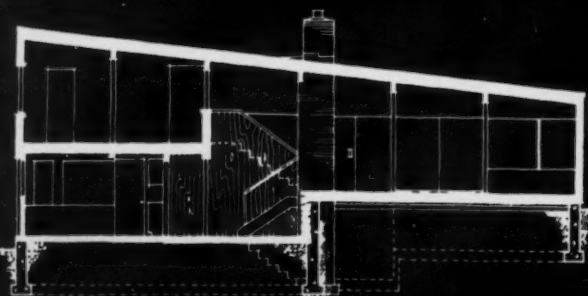
Right page, top: the master bedroom is ventilated by hinged panels below the fixed glass — contains its own fireplace and desk-dressing counter

Right page, bottom: bathrooms feature redwood in natural finish. Thick slab containing recessed lavatories is moisture-resistant laminated maple



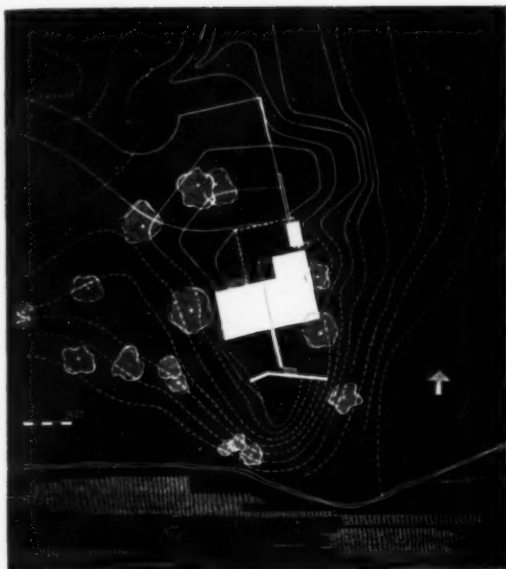


Bill Hedrich, Hedrich-Blessing



The natural slope dictated a split-level scheme, which creates pleasantly varied spaces under the simple roof pitch. From the middle level living room one can walk up seven risers to the bedroom gallery or down seven risers to the dining area.

Tom Ballinger



Richard Garrison

A THREE-LEVEL HOUSE IN MASSACHUSETTS

Hugh Stubbins, Jr., Architect

THREE NATURAL ELEMENTS — slope, woods and view — jointly influenced the shaping of this house in section. The site, dotted with tall white pine trees, is a small knoll falling gently off to the south towards a pleasant pond. Nearing the house from the west one sees the large flat roof over the carport and entrance approach. This dominant horizontal relates the house to the flatness of the pond and creates a strong contrast to the verticality of the pines as well as the trapezoidal shape of the main element of the house.

The land slope from west to east dictated the split-level arrangement of the principal rooms, which are disposed in an essentially rectangular plan sheltered by a roof that pitches to oppose the incline of the ground.

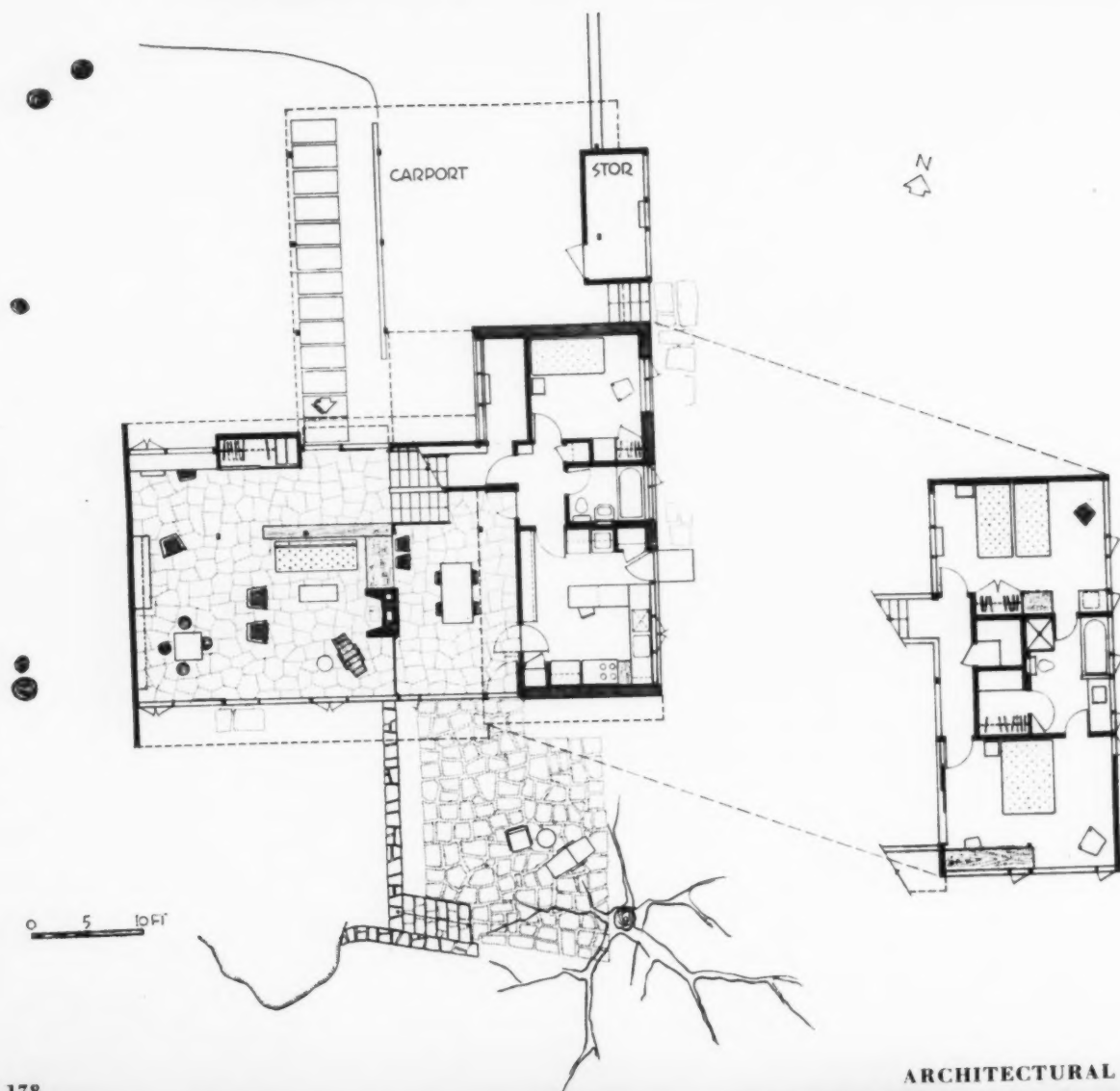
Entrance is at living room level, which looks down on the view over the higher terrace. From this middle level one can walk either up seven risers to the bedrooms or down seven risers to the dining-kitchen area, which opens in turn to a lower terrace.

The resulting interior provides a sensation of great spaciousness together with visual change from one area to another; the whole pulled into unity by the canted plane of the roof above.

An eight-foot structural module is maintained throughout; north and south beams are 4 by 14s supported on 4 by 6 posts. The disciplined structural system is everywhere apparent, both indoors and out; its expression serves to make the concept more valid.



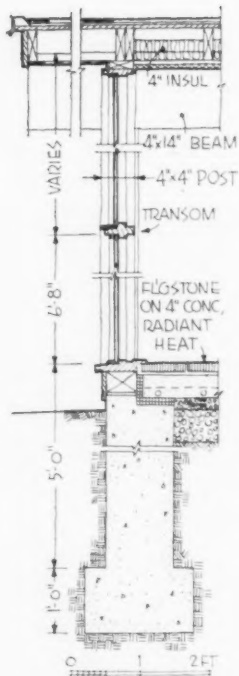
Richard Garrison



Under the carport and entrance shelter at the north side of the house, both the structure and its disciplined modular organization are expressed. Exterior walls are vertical red-wood siding stained with creosote; fascias and frames for doors and windows are painted white. The entrance door is located at the middle or split-level and leads to the living area



The architect's plan, left page, points up the open character of the interior of the house. Separations are achieved by visual blocks or by low elements with either glass or voids above. This results in a series of spaces that seem to interflow and expand, both vertically and horizontally



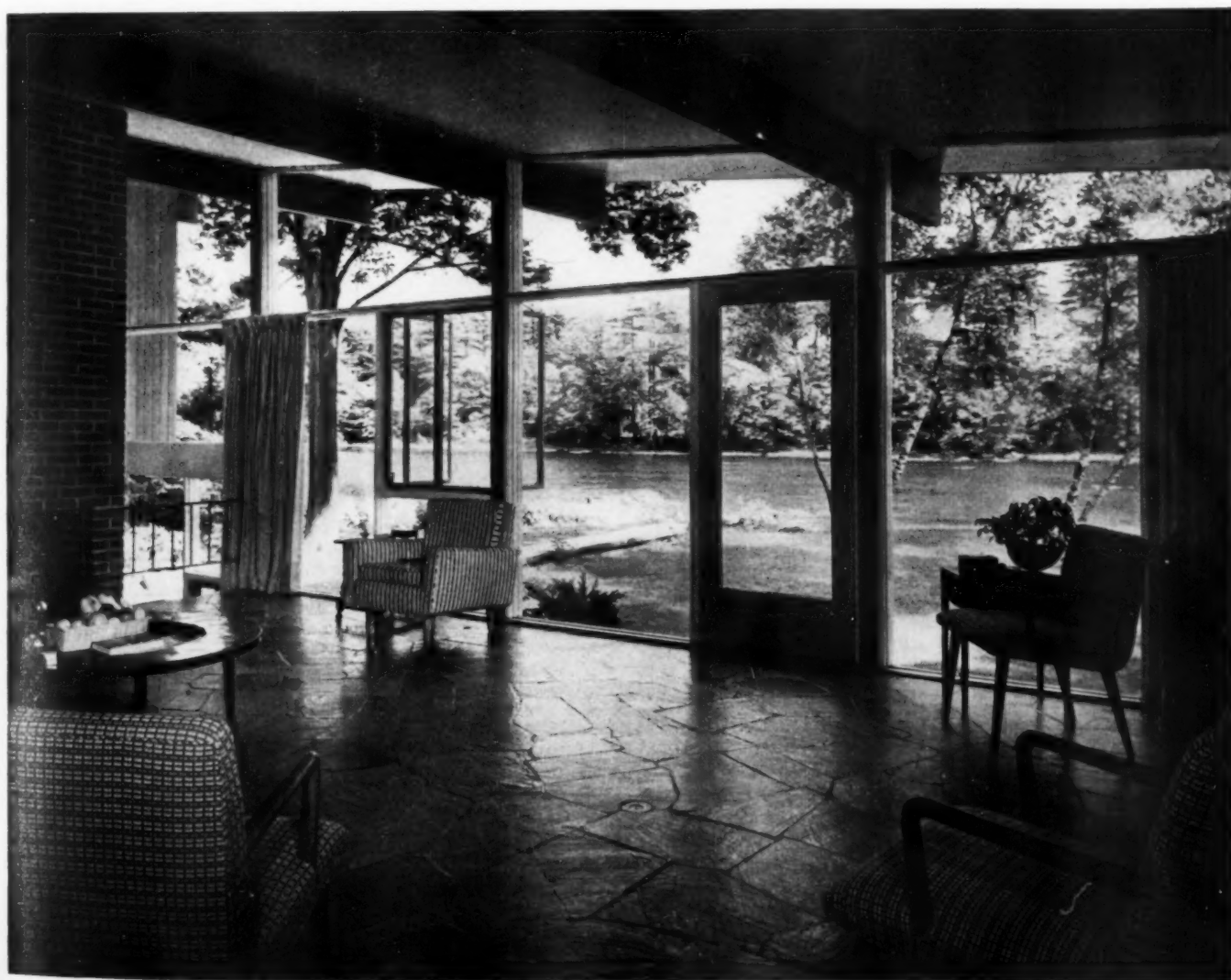
Richard Garrison



Entry, above, is separated from the main living area by a low cabinet and connected to the remainder of the house by the stairway



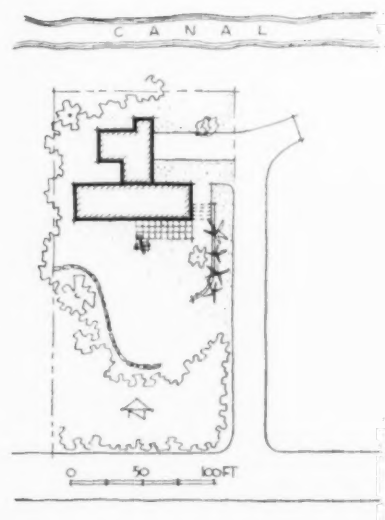
Bedroom, above, and living room, below, look out to the south and afford a view of the pond, while the dining area (p. 176) opens to the same view from a still different elevation. This constant tying together of house and site from different station points provides both variety and a means of orienting oneself with the plot





H. O. Wiseman

Entrance to house (below) is from cul-de-sac on east side of property. Brick walk leads past planting box window in living room to south terrace. Opposite page: brick wall and planting box divide south terrace into "public" and "private" areas



Joseph W. Molitor



RESIDENCE OF MR. AND MRS. WILLIAM B. WIENER

Shreveport, Louisiana

William B. Wiener, Architect

A CORNER LOT, sloping gently from west to east, determined both the placing of this house and the use of two levels. A family consisting of the architect, his wife, and teen-aged son and daughter — all interested in outdoor and indoor entertaining, gardening, hunting and fishing — determined the plan, location of the patio and close relationship between carport and "private" entrance.

This is a real family house, as the plan (next page)

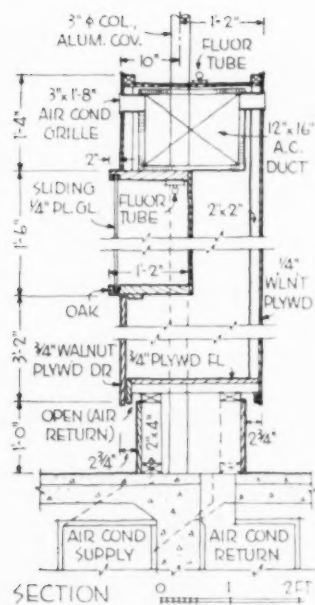
shows. Its living and sleeping areas are almost two distinct houses, separated not only by level but also by a 12-in. fire wall. Each wing has its own heating, ventilating and air conditioning units. Living, dining and game rooms can be used either individually or together, depending on the family's entertainment program; a party given by one person in no way interferes with activities of another, or with the early-to-bed ideas of someone else.



Joseph W. Molitor

H. O. Wiseman





Joseph W. Molitor



Main entrance (above) is at north corner of house; short hall leads past dining room to living room. Family has private entrance adjacent to carport. Right: game room

H. O. Wiseman

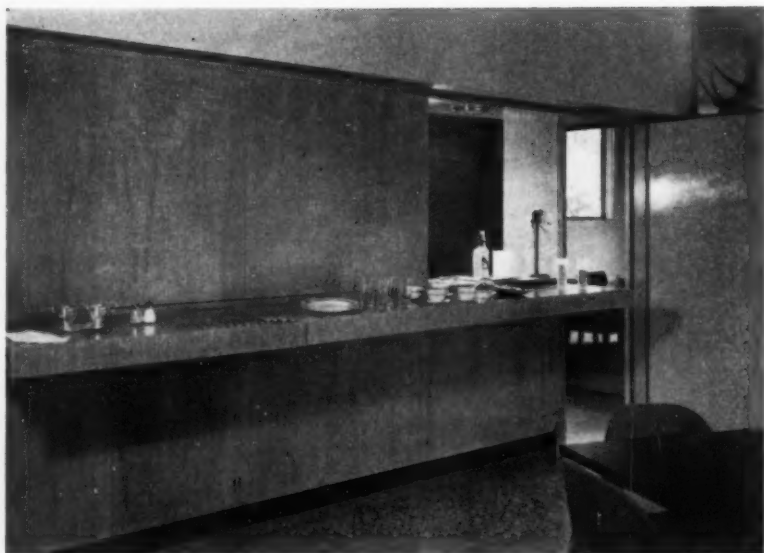




Arrangement and height of partitions in living room wing are adroitly worked out to provide for family's varying entertainment needs. Living room (above) and game room (below) can be used separately or together, ceilings are acoustically treated. Game room has door (left below) opening directly to bedroom corridor. Air conditioning ducts for this wing are in door-height cabinet (left in photo above; detail opposite)



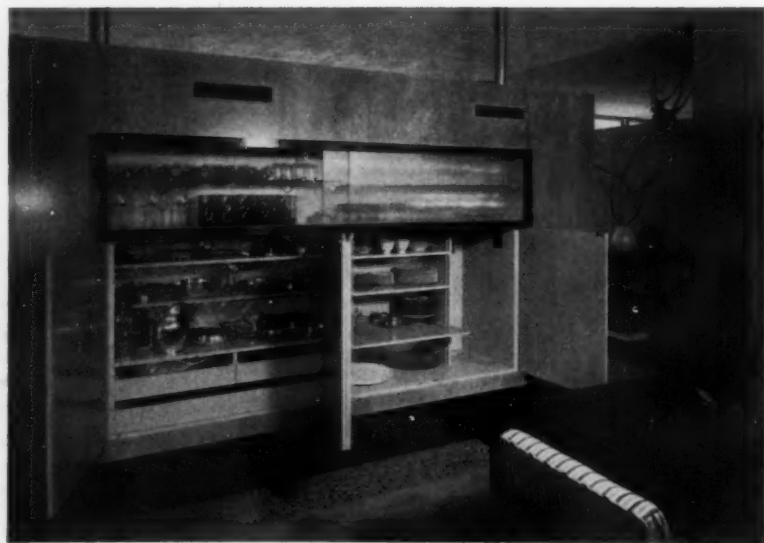
Joseph W. Molitor



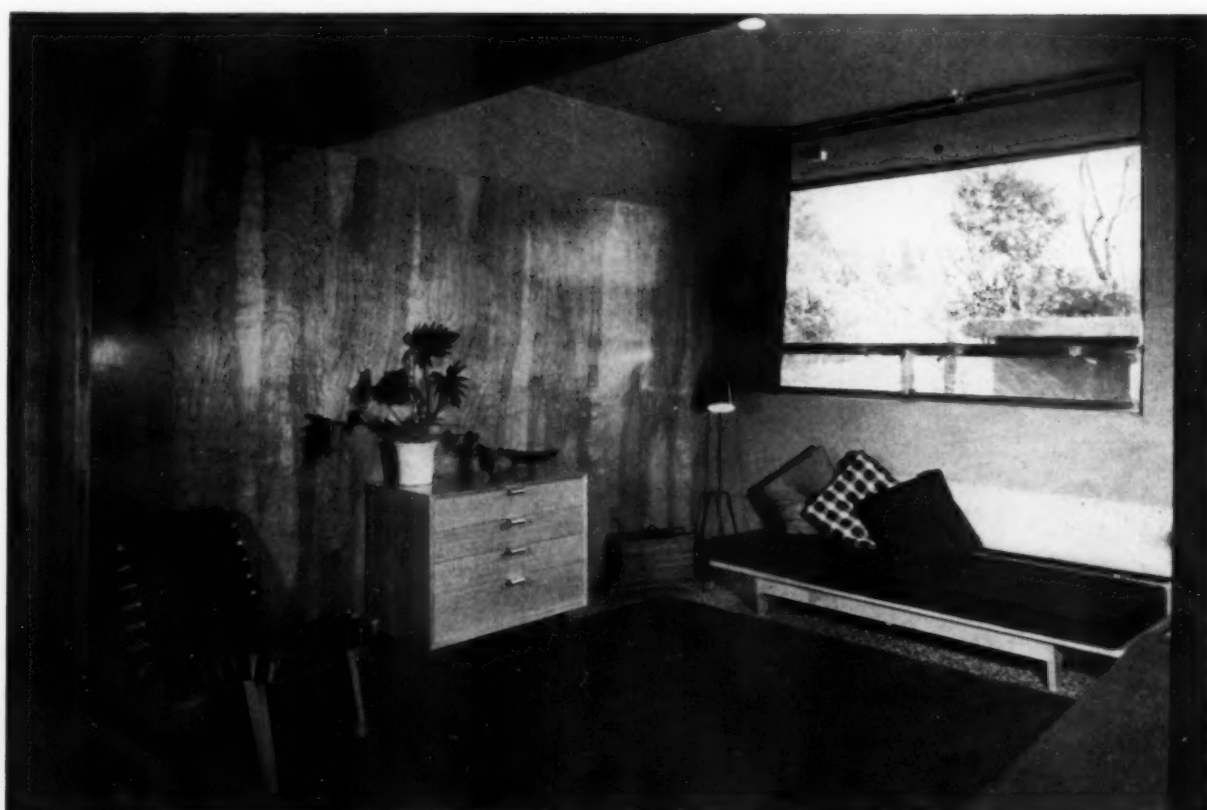
All interior and exterior walls and partitions (except east, west and center) are non-load bearing, which permitted completion of roof and pouring of terrazzo floors before partitions were in place. Most partitions contain storage or service facilities. Game room (previous page and top left) has built-in service counter at one end of cabinet wall, as useful for large buffet suppers involving entire living-dining wing as for informal entertaining in game room alone. Cabinets frequently combine display space with enclosed storage, as in dining room (left, below) and in kitchen-breakfast room area (below). Interior walls are plywood, brick and plaster, used in combination in "public" areas to emphasize flow of room into room.



Joseph W. Molitor



Although entire house was planned around the varying needs and habits of a four-member family, bedroom wing especially reflects family and individual requirements. Entire wing is on higher level than living area for maximum privacy, has separate heating and air conditioning systems and a private entrance. Each bedroom has its own bath and specially designed storage units, master bedroom (right) also has large dressing room. All three bedrooms have direct access to rest of house and to carport. Family interest in hunting and fishing resulted in gun and tackle closet at end of private entrance hall, conveniently close to carport. Guest room (below) can be left open for family use or closed off by sliding panel for guests.





HOUSE WITHOUT A LIVING ROOM

Residence for Dr. and Mrs. Lee E. Hartman

Beaumont, Texas

Howard Barnstone, Architect

HERE A SURPRISINGLY LARGE HOUSE was built on a small lot by erecting walls on lot lines and designing a series of living spaces suitable for contemporary family life. There is no living room; instead, the play-room is an integral part of the children's wing as is the sitting room of the adult's wing. The dining-kitchen area and two courts complete the plan.

Since the site is some 4 ft above street level, an excavation with concrete retaining walls was necessary for easy access into the carport. The lower-level carport and storage area made possible the same roof pitch over carport and central wing.

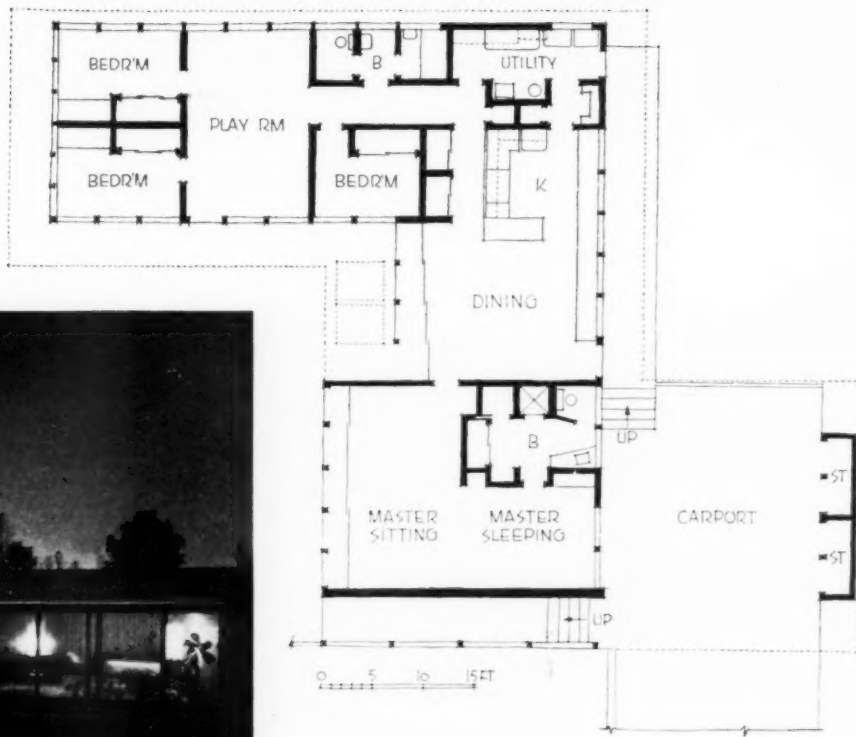
Most rooms face the south court, which is oriented

to the prevailing southeast breeze yet shielded from the two streets on the south and east. A 6-ft redwood vertical fence forms the north court, which follows property lines to create a drying yard.

The architect attempted to give the house an intimate quality by keeping ceilings low (7 ft-4 in.) and through extensive interior use of natural woods, brick walls and burlap ceiling-to-floor curtains. Floors are black asphalt tile, and all painted surfaces are off-white, except for a few vivid-color surfaces in the children's area. Foundation is reinforced concrete slab; structure is fir frame with redwood and brick exterior walls; roof is 5-ply built-up asphalt.

F. W. Seiders





Above, left. large window areas, sliding doors open on south court.
 Below, left. dining-kitchen area forms central core between courts.
 Below, right. north court and steps up from lower-level carport





RESIDENCE FOR MR. AND MRS. WILBUR

Joseph W. Molitor





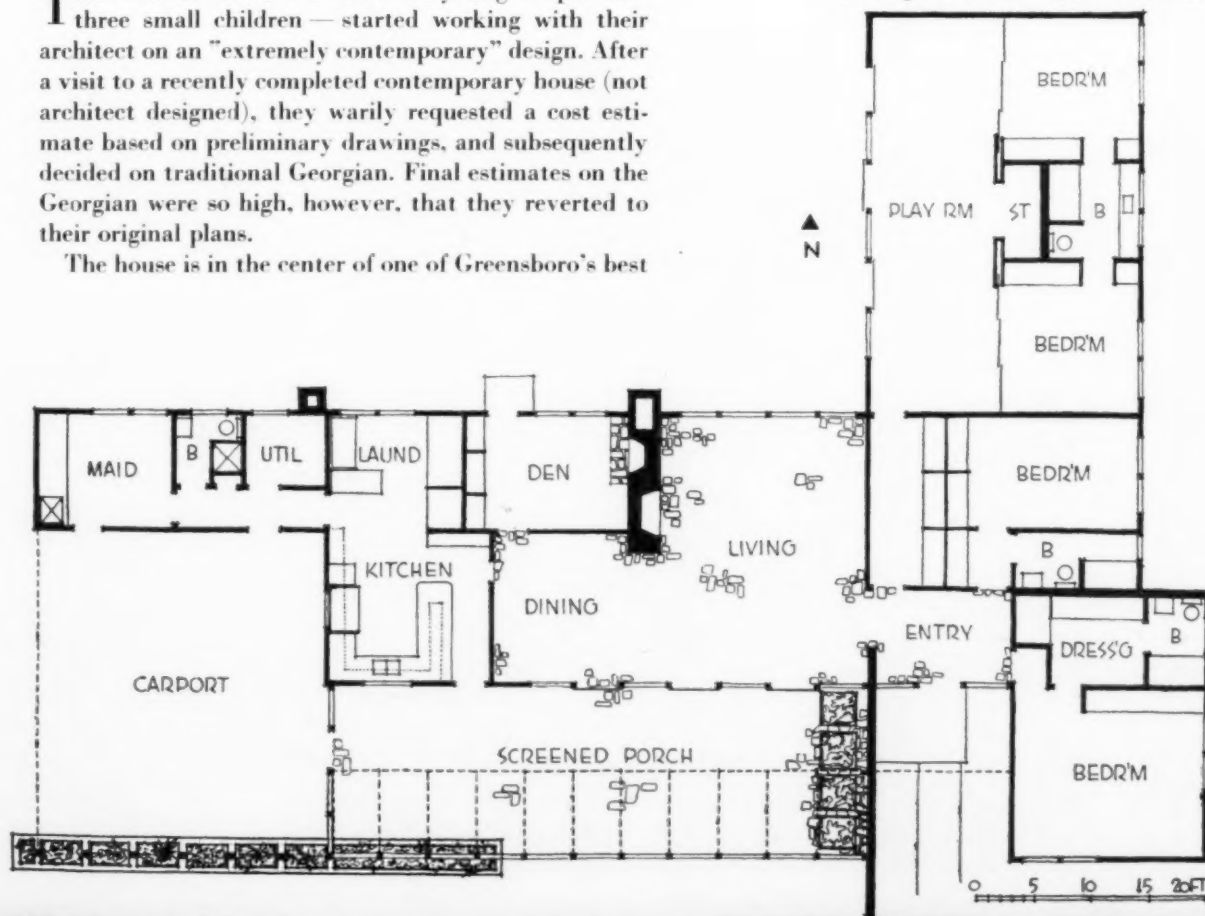
L. CARTER, JR., GREENSBORO, N. C.

Edward Loewenstein, Architect

THE OWNERS OF THIS HOUSE — a young couple with three small children — started working with their architect on an "extremely contemporary" design. After a visit to a recently completed contemporary house (not architect designed), they warily requested a cost estimate based on preliminary drawings, and subsequently decided on traditional Georgian. Final estimates on the Georgian were so high, however, that they reverted to their original plans.

The house is in the center of one of Greensboro's best

Since prevailing breeze is from south-east, screened porch is on that side of house despite busy street along south of lot. Angled brick wall provides privacy





residential districts, on the town's highest elevation. It was designed to fit among huge old oak trees, none of which was to be removed. Since both Mr. and Mrs. Carter are active in civic affairs, entertainment requirements were greater than average; hence the huge screened porch and adjoining terrace. The children were given a completely separate wing at the rear, with an out-size playroom opening to a secluded outdoor play space. A high brick wall shuts off family traffic from formal reception areas.

Living room floor is flagstone, easy to maintain despite heavy traffic; fireplace wall is brick. Below: entrance walk brick wall carries into house for short way to separate bedroom corridor from living area

Joseph W. Molitor



SEVEN HOUSES PLANNED FOR SPECIAL NEEDS

*Preview of a Book *Prepared for the Future Home Owner and His Architect*

THE HOUSES SHOWN IN BRIEF on this and the next three pages are but seven of the forty included in a book prepared by Jean and Don Graf especially for the layman and the architect who must work with him. The book is intended to show (and *does* show) that the contemporary house can be at least as personal in its approach as is the traditional.



* *Practical Houses for Contemporary Living*. By Jean and Don Graf. F. W. Dodge Corporation (119 W. 40th St., New York 18, N. Y.) 8 3/4 by 11 1/4 in. 186 pp., illus. Publication date, Dec. 17, 1952.

Lowell Hiss

“HOUSES FOR ONE”

*Vacation House for Mrs. G. J. Armbruster
Lake Stevens, Washington
Bassetti & Morse, Architects*

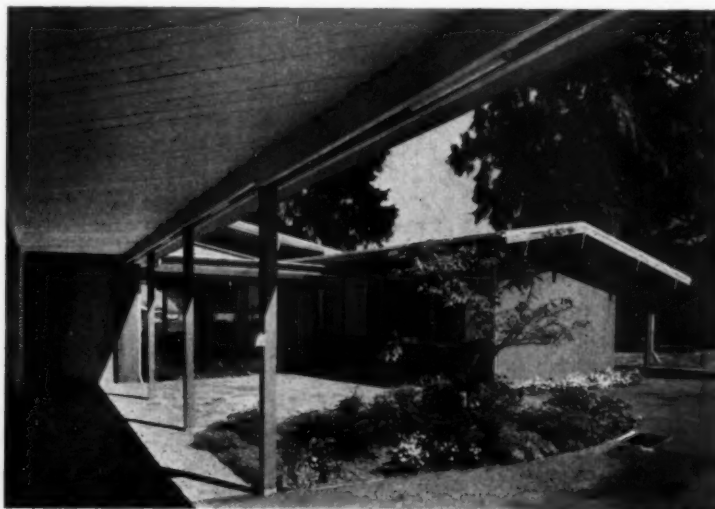
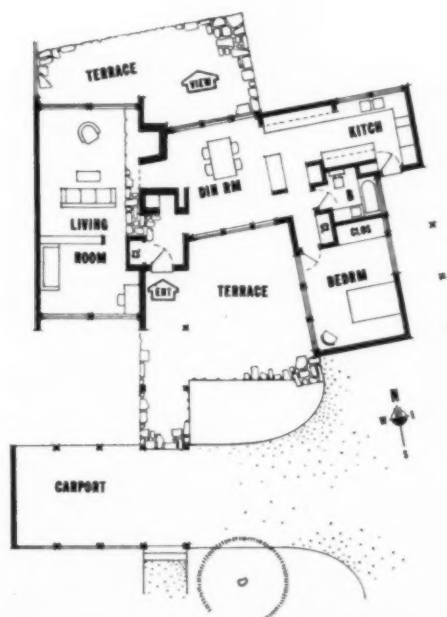
Lakeside year-round vacation house, planned for widow with grown children who visit on weekends. Single bedroom is supplemented by sleeping alcove off living room. North and south terraces permit outdoor living through most of the year.

Dearborn-Massar



The Grafts present their forty houses in six chapters entitled: (1) Houses for One; (2) Good Small Houses; (3) Planned for Children and Adults; (4) Limited Lot Lines; (5) Houses for Irregular Land; (6) They Knew What They Wanted. Each of the chapter titles speaks for itself and quite accurately describes the houses in its group.

The book as a whole is carefully worked out to give the future home owner the answers to many of his questions about the contemporary house. Plans are reproduced at the same scale throughout, and photos are arranged to further facilitate the layman's comparison of one house with another.



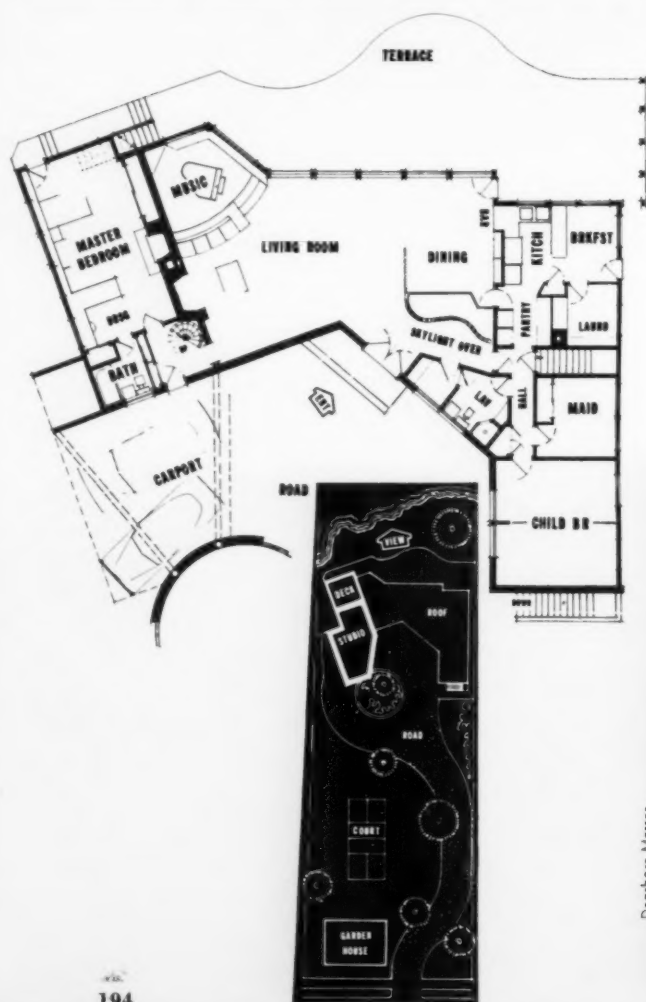
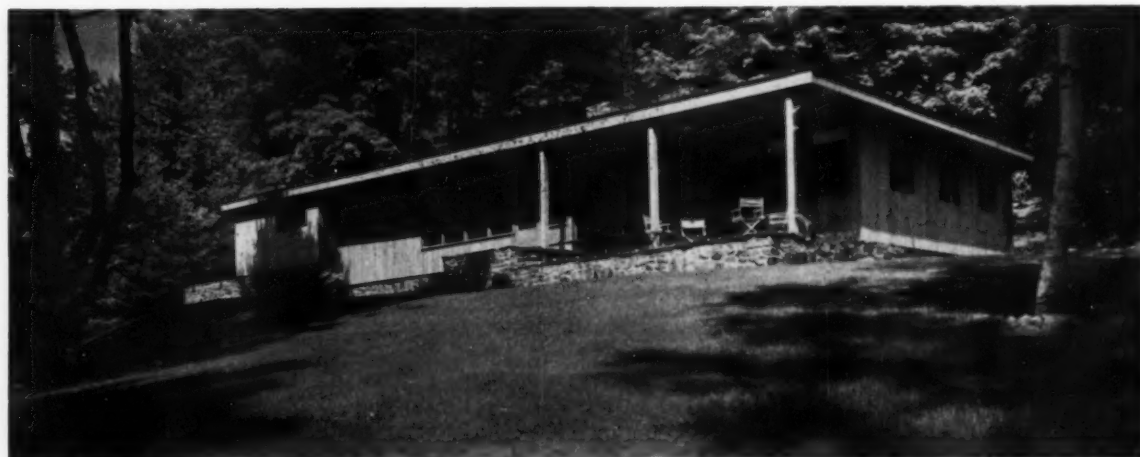


"GOOD SMALL HOUSES"

*House for Mr. and Mrs. Sydney M. Kayes
Cornwall Bridge, Connecticut
William Lescaze, Architect*

Built for summer use, but perfectly adaptable to year-round occupancy. Has three bedrooms, small swimming pool, good exploitation of view — all in minimum space.

Joseph W. Mallory



"HOUSES FOR LIMITED LOT LINES"

*House for Dr. and Mrs. John Lehmann
Seattle, Washington
Roger Gotteland, Architect*

Narrow lot with magnificent view of Puget Sound. Carport adjacent to master bedroom for convenience of doctor-owner. Wife is an artist, hence second-floor studio.

Dearborn-Mastor

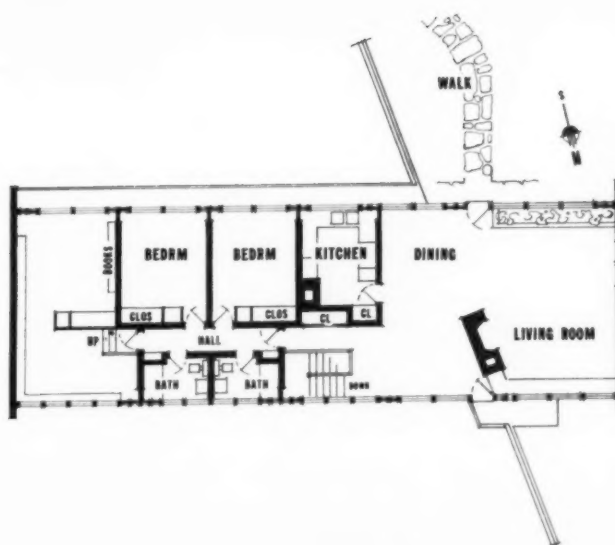


"HOUSES FOR IRREGULAR LAND"

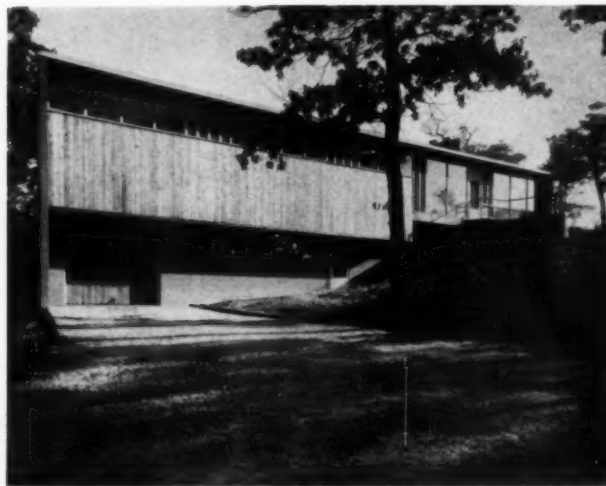
1

*House for Professor and Mrs. Avery Craven
Dunes Acres, Indiana
George Fred & William Keck, Architects*

Two-story house with living level upstairs, garage, studio and utility room below. Front and back of house are completely different in character.



Arthur Siegel



2

*House for Mr. and Mrs. William J. McCune, Jr.
Lincoln, Massachusetts
Hugh Stubbins, Jr., Architect*

Two-level house, only half completed to date (grayed portion of plan shows future expansion). Upper floor meets ground level at rear.



Richard Garrison

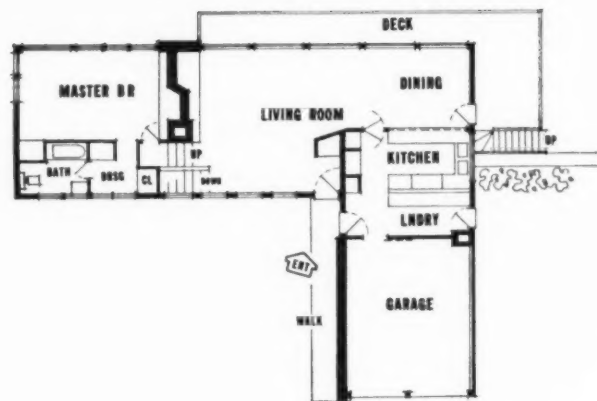


“HOUSES FOR IRREGULAR LAND”

*House for Dr. and Mrs. I. S. Ravdin
Bucks County, Pennsylvania
George Daub, Architect*

3

Split-level house overlooking typical rolling fields of Bucks County. Here again upper level is main living area; lower houses bedrooms, workroom.



Mike Pearlman

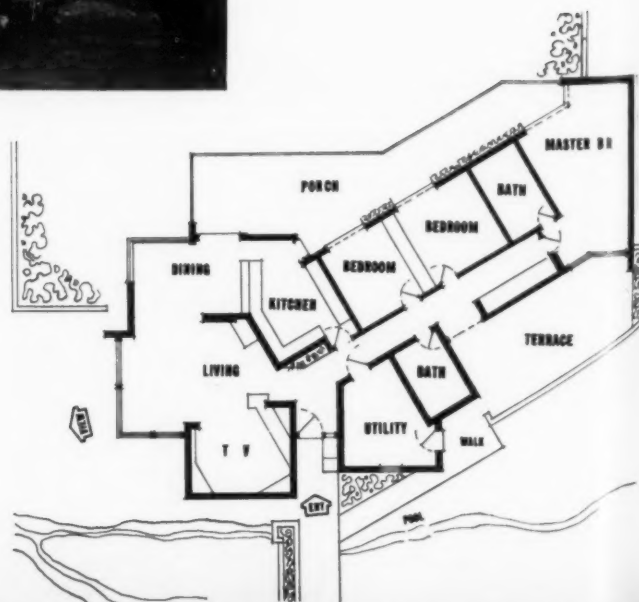


Stuart A. Weiner

“THEY KNEW WHAT THEY WANTED”

*House for Mr. and Mrs. Fred Eldean
Scottsdale, Arizona
Blaine Drake, Architect*

Designed for a former New York City executive and his wife, who had pulled up stakes and moved to Arizona. Plan is highly individual, making most of sun, view and built-ins.



One of the houses of the Amana Society at Amana, Iowa, as it appeared in 1946 with ponderosa pine siding that had never been painted except for windows, doors and trim. The house was at least 40 years old, but probably was much older than that



WOOD SIDING LEFT TO WEATHER NATURALLY

By F. L. Browne, Chemist

Forest Products Laboratory,* Forest Service

U. S. Department of Agriculture

SINCE PUBLICATION of the article on "Natural Finishes for Exterior Wood" in ARCHITECTURAL RECORD (February 1952, page 196) a number of inquiries have been received about the possibility of leaving exterior wood entirely unfinished, to weather naturally. If suitable precautions are taken it is practicable to do so, but whether this is desirable is a question the architect and

* Maintained at Madison, Wis., in cooperation with the University of Wisconsin.

owner must decide. Painting, though, is likely to remain the customary treatment for exterior surfaces of smoothly planed wood, and staining for rough wood.

Nevertheless, the practicality of weathered wood is adequately demonstrated by much past experience. For the first century or so of the American Colonies, particularly in New England, wood was the predominant building material and the exterior surfaces were

left unpainted to weather naturally.

It was not merely that paint was an imported luxury. To the puritan mind of the time painting was an ungodly arrogance for anyone but a high crown official or a very wealthy merchant. There is record of the expulsion of a barber from the Massachusetts Bay Colony for aspiring beyond his station in life when he spent part of a small inheritance for painting his house.

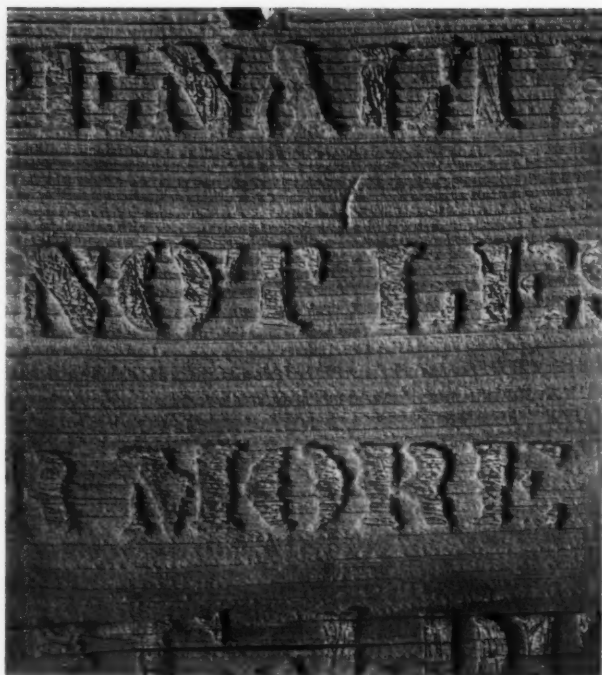
Many of the wood buildings of the early colonial period still stand. Most of them, of course, were painted when it became socially acceptable to do so, and they have been kept painted since. But some, including two of the oldest houses that remain, have never been painted. New Englanders claim that they have the oldest wood house in the United States, now known as the Old Fairbanks House at Dedham, Mass.

The first part of the house was built in 1636. Most of the clapboard siding, however, was replaced in 1903 but has now stood nearly 50 years without paint. The oldest portion of Hartwell Farms at Arlington, Mass., also built in 1636, is still covered with the remnants of the original clapboards.

From 1858 to 1932 the Amana Society owned communally seven villages in Iowa County, Iowa. The houses were of wood and were left unpainted except for window sash and doors, which were painted. When I saw them for the first time in 1927 the houses were well main-



The new house of architect Winston Elting has unfinished rough sawn redwood siding. A water-repellent preservative was applied to millwork, exterior beams and columns



Part of a 25-year-old signboard made by stenciling letters on an unpainted background. Eroding of the unprotected wood background by weathering left the letters embossed $\frac{1}{16}$ in. From this and other suitable evidence, it can be predicted that wood wastes away about $\frac{1}{4}$ in. a century due to weathering

tained. The chief carpenter told me that the $\frac{1}{2}$ by 6 in. bevel siding lasted from 30 to 50 years before they found it advisable to begin making replacements.

In 1946, fourteen years after the residences passed into private ownership, I again visited two of the villages. By far the most attractive and neatly kept houses were those that remained loyal to the old custom, with the siding unpainted but with corner boards, fascia boards, and window and door casings, as well as sash and doors, decorated with paint.

The houses mentioned so far were all very modest dwellings, left unpainted for economy or to conform to local custom of the time. But there are at least a few examples in recent years of more pretentious buildings for which weathered wood was chosen strictly for its appearance. Two of those I know are hotels that must attract patrons to remain in business. Pilot Butte Inn at Bend, Ore., and the Redwood Inn at Scotia, Calif., are the leading hotels in their communities. Both have been in operation for several decades.

The Process of Wood Weathering

Wood such as siding and trim on buildings, if left freely exposed to the weather without protective painting or treatment, changes materially in appearance for a few months or years, after which it stays nearly unaltered for a long time. The color of the wood is affected very soon. Woods like redwood and red cedar, that owe their color largely to substances soluble in water, may first become bleached. Woods of lighter color,

such as pine and spruce, may first become somewhat brown from the action of sunlight. Later all of the woods turn gray unless the building is high in the mountains, where the brown color associated with the Swiss chalet develops.

Smoothly planed wood soon begins to acquire a rough surface. First the grain becomes raised, that is, the hard bands of summerwood rise above the softer springwood between them. Then minute checks or cracks begin to appear in the surface and steadily increase in number until the surface becomes decidedly rough as the fibrous structure of the exposed wood is greatly loosened. Finally the wood substance erodes away very slowly and the boards gradually become thinner. Wood wastes away by such weathering at the rate of approximately $\frac{1}{4}$ in. a century.

Besides the many minute checks in the surface, most woods soon develop some larger and deeper checks or cracks that are easily visible and may become conspicuous. As a rule, the woods of moderate to low density acquire fewer of the conspicuous checks than do the woods of high density. Edge-grain boards check less than flat-grain boards of the same variety of wood.

As a result of the weathering process there is a tendency for boards to cup, warp and pull at their fastenings. Firmer nailing may therefore be necessary when wood is left to weather than would be required if it were kept well painted. The cupping tendency varies with width and thickness of the boards. The greater the width in proportion to the thickness, the greater is the tendency

to cup and pull at the fastenings.

Although $\frac{1}{2}$ by 6 in. bevel siding was considered satisfactory by the Amana Society, $\frac{3}{4}$ by 6 in. siding would serve much better. For best results the width of the boards should not exceed 8 times their thickness.

Cypress, hemlock, white pine, ponderosa pine and spruce usually weather to a light-gray color that often has a silvery sheen. A darker gray with little or no sheen is developed by red cedar, Douglas-fir, fir, southern yellow pine and redwood. Red cedar, cypress and redwood commonly acquire fewer conspicuous checks or cracks than other woods do. Similarly, cypress, red cedar and redwood generally have the least tendency to cup and pull at fastenings; whereas pine, fir, hemlock, spruce, Douglas-fir and southern yellow pine require firmer nailing to hold them in position.

Development of Weathered Appearance Takes Time

Although the appearance of weathered wood is attractive for suitable architectural effects, there is a difficulty in making use of it for new construction, in that much time is required for the change from new to weathered lumber. Moreover, the change seldom takes place evenly over the different parts of a side wall. Those boards that receive most rain and sunshine become weathered first. Usually the lowest courses of siding on the south wall become fully grayed and roughened sooner than the top courses of siding under the eaves and much sooner than courses of siding

under a porch roof. Wide overhang at the eaves delays the weathering of more courses of siding than a narrow overhang does. Thus for a number of months, or even for a year or two, there is a mottled appearance varying from nearly bright lumber to gray weathered wood.

The unequal delay in attaining the weathered appearance can be avoided by using rough sawed rather than the smoothly surfaced lumber to begin with and applying a gray oil stain. Such a stain can be made, for example, from raw umber in oil, white lead in oil, boiled linseed oil and mineral spirits or other paint thinner. The stain need be applied only once when the house is built; by the time the stain has worn out the wood will have developed its natural weathered gray color.

Some houses recently have used bevel siding with the planed side out and have then been given the color without the roughness of weathered wood by applying a product known as bleaching oil or sometimes as redwood bleaching oil. A number of paint manufacturers supply such products. They may be described as natural finishes of the sealer type in which there are some pigments to give the gray color. When bleaching oil is used, the wood may be kept smooth indefinitely by renewing the finish as often as proves necessary, or the first application may be allowed to wear off and leave the wood in its naturally weathered condition.

Need for Rust-Resistant Nails

When exterior wood is to be allowed to weather naturally or is to receive a natural finish, it is particularly important to see that all nails used to fasten it and all hardware that may be placed in contact with it are highly resistant to rusting. The heads of ordinary iron nails rust rapidly, and the iron rust promptly penetrates into the wood for some distance from the nail heads. In some woods such rust makes reddish brown stains, but in woods that contain tannins, such as cedar and redwood, the stains are bluish black and very unsightly. Corrosion-resistant nails, such as galvanized nails, cadmium-coated nails or aluminum nails avoid such difficulties.

Although the weathered wood appearance may dispense with periodic renewal of paint or finish, it should not be used as an excuse for neglecting periodic inspection and careful maintenance of the building. Even when care is taken to provide firmer nailing than

usual, some nails gradually become loosened and partly withdrawn by the operation of the forces of wood weathering. Every four or five years such loosened nails need to be driven in tightly again. Likewise, the same care about keeping joints tight, repairing gutters, and making other minor repairs that would be taken with a painted house, is needed when the wood is allowed to weather.

Exterior wood, then, may properly be allowed to weather naturally without

protection by paint or other finish whenever it proves desirable to obtain an architectural effect in that way. For weathered wood it is wise to select the kind of wood carefully to obtain the intended result; and it is particularly wise to use lumber that is thick enough in proportion to its width, to see that it is very firmly fastened with rust-resistant nails, and to provide the same care in maintenance that would be given to a painted building.



Above: Redwood Inn at Scotia, Calif., with redwood siding and trim on first floor, redwood shingles on the second. It was 20 years old here and had never been painted. Below: the Old Fairbanks House, Dedham, Mass., built in 1636 and never painted. White pine siding was replaced in 1903. Window frame, fascia wood may be the original



1. Laboratory service core and modular layout permit easy alterations
2. Main portion of building is windowless for blast resistance
3. Lighting was tested in a pilot laboratory
4. Heat loads from equipment complicated the air conditioning design



Exterior walls will be concrete with an integral textured finish

LABORATORY ARRANGEMENT SUITS BLAST RESISTANT BUILDING

Armed Forces Institute of Pathology Building, Washington, D. C.

Faulkner, Kingsbury & Stenhouse, Architects

COMBINED IN THIS ONE BUILDING, now under construction at the Walter Reed Army Medical Center, will be activities usually found separately in research laboratories, office buildings, hospitals, printing plants, educational centers, and even in television studios. Further complicating the design was the requirement that the main portion of the building be blast resistant.

The architects solved blast resistance to a great extent by making most of the structure windowless. To give flexibility in the laboratories, to save on costs, and at the same time to assist in blast resistance, they placed the laboratories back-to-back in the center of the building, divided by a service core and bounded by corridors. Offices and other functional areas are adjacent to exterior walls. This two-corridor plan (see across page) furnished a building of considerable depth—highly desirable for resisting bomb blasts.

1. Service Core and Laboratory Modules

Laboratories are arranged in 11 by 22 ft modules on either side of the core. All piping is run horizontally and above the floor so that services can be brought in at any partition.

Changes can be made at any time without disturbance, except in the laboratory being altered. Lighting fixtures and air supply outlets are also on a modular basis, so they need not be changed except in special cases. Even

these changes would not be difficult since ceilings are removable.

2. Blast Resistance

The structural frame and the reinforced concrete blast walls enclosing the main portion of the building were designed to withstand a possible positive pressure of 27.2 psi and a negative pressure of 13.6 psi on the south side, together with a positive pressure of 13.6 psi and a negative pressure of 6.8 psi on all other sides and the roof.

In certain places in the interior of the building, reinforced concrete walls are included to help resist the pressures. Openings in the blast walls in all cases but one are taken care of by specially designed blast doors. These are of two types: a guillotine door generally being used for duct openings and a side-hinged door for all others. It was not believed practical to provide a blast door for the flue from the incinerator, but instead, the chimney and the incinerator room are enclosed in reinforced concrete to withstand a possible blast.

3. Lighting Tested in Pilot Laboratory

Seeing tasks required a lighting source that would produce the maximum intensity of illumination without imposing an excessive load on the air conditioning. Important also were good color discrimination, reduction of specular reflections, elimination of annoying shadows and other factors that would affect the comfort of personnel who would

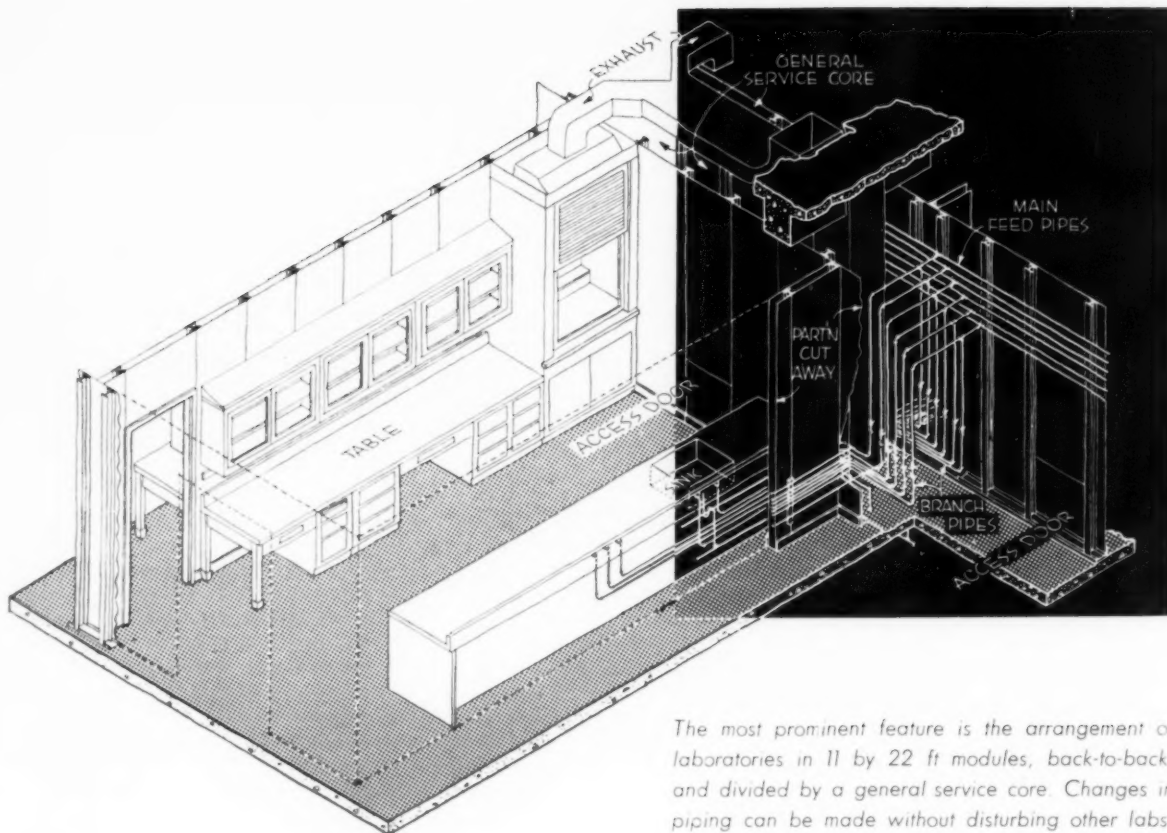
be required to work in a small windowless room for relatively long periods.

Since adequate quantity of light accompanied by minimum heat load and good color discrimination were the most important variables, initial experiments were made with a combination of fluorescent and incandescent light sources. Fixtures consisted of two 4-ft fluorescent sections in tandem with a 12-in. square incandescent unit at each end. Reduced illumination at the extreme ends of the laboratory benches, and marked color contrast between the two types of lamps, ruled this method out.

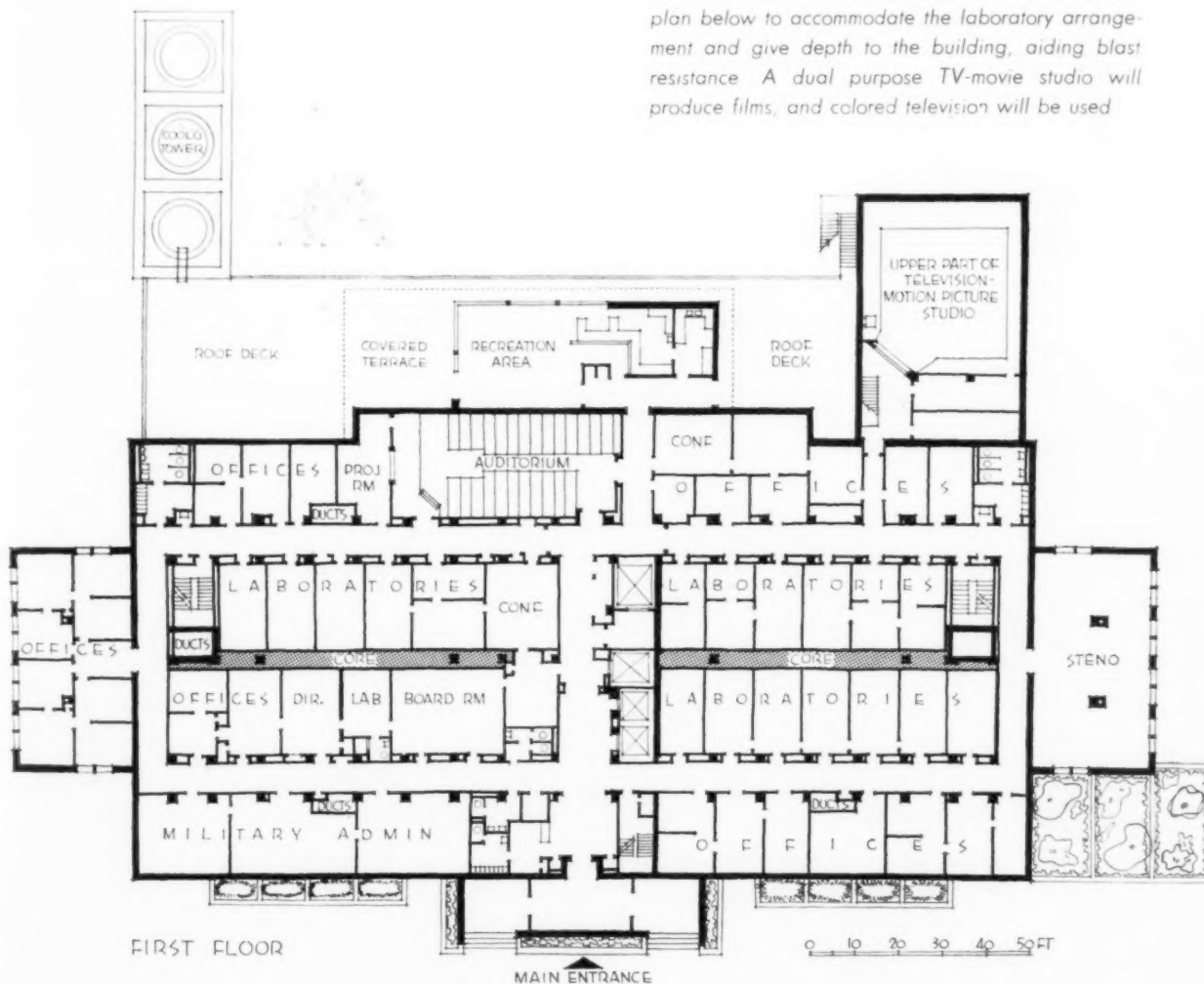
The most acceptable results were attained with four 4-ft long, surface-mounted fixtures each equipped with four 40 watt, 4500 deg cool white, fluorescent tubes. Fixtures were symmetrically mounted in the room which was decorated with white ceiling, buff-colored walls and a gray-green floor covering.

4. Air Conditioning

Because of the variation in occupancy and equipment heat loads, it was not possible to provide optimum comfort at all times in the laboratory modules with a central system. To alleviate extreme summer conditions prevailing temporarily in a few modules where equipment loads might approach or exceed 4000 watts for extended periods, chilled water risers have been provided to permit the temporary installation of individual unit coolers.



The most prominent feature is the arrangement of laboratories in 11 by 22 ft modules, back-to-back, and divided by a general service core. Changes in piping can be made without disturbing other labs, and partitions are movable to facilitate future modifications. The architects developed the two-corridor plan below to accommodate the laboratory arrangement and give depth to the building, aiding blast resistance. A dual purpose TV-movie studio will produce films, and colored television will be used.



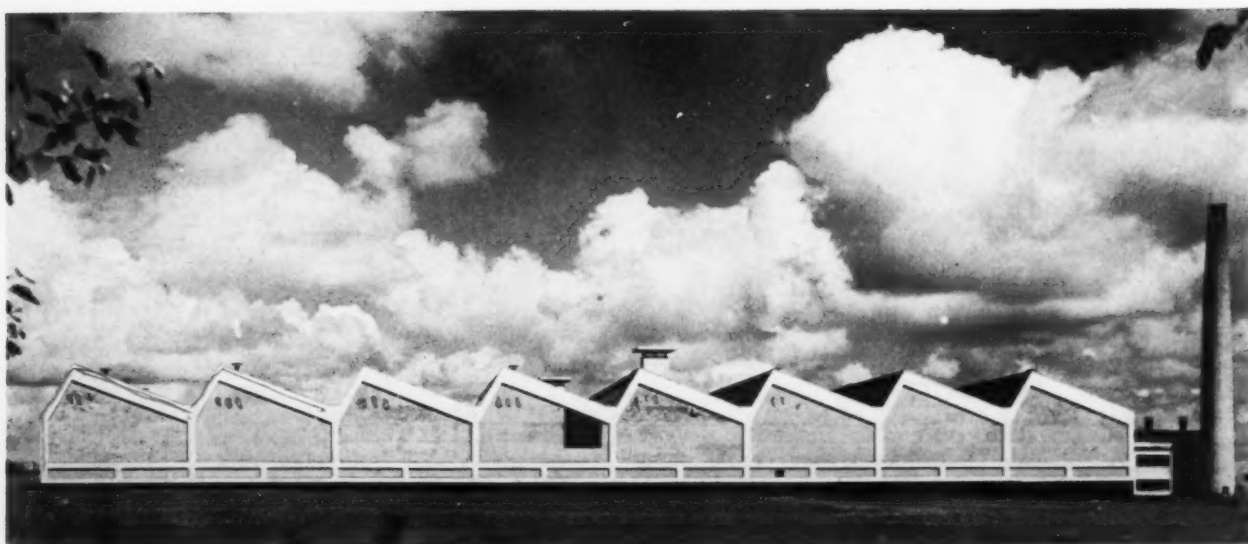
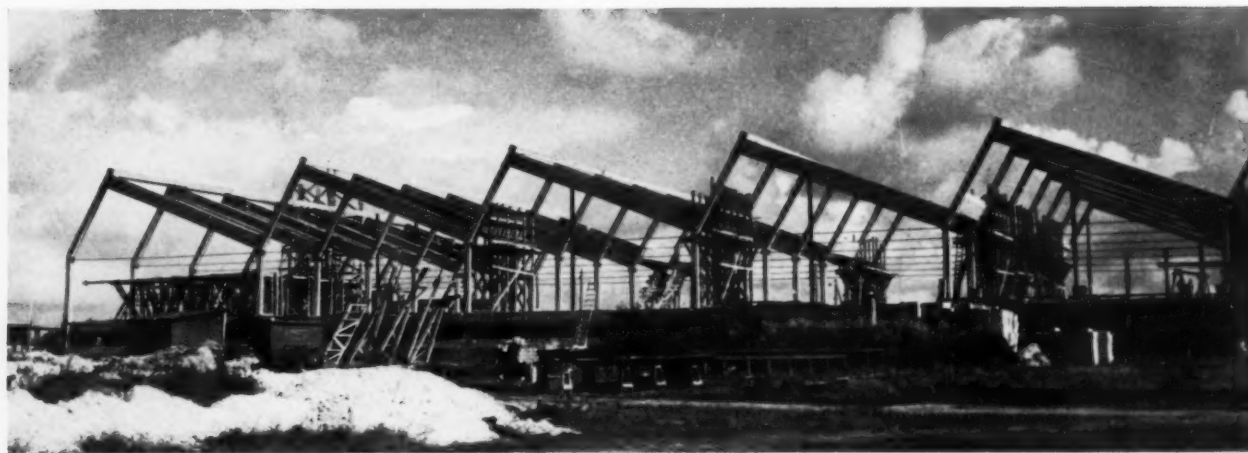
THREE CONCRETE STRUCTURES IN DENMARK



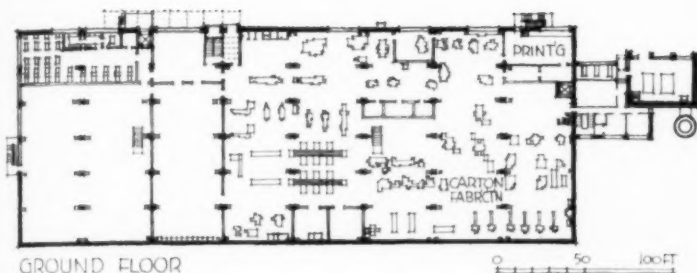
Examples showing application of precast concrete and some prestressing give an idea of the trim lines possible and point up the contrast between European and U. S. construction methods

Preben Hansen, Architect

Sign, clock, fence and marquee at the Obel packaging plant are typical of the neat design seen at some new Danish factories



Concrete framing of the Obel plant expresses itself in the exterior design. The narrow strip along the bottom indicates the service space for water and air pipes and electrical lines. Column bents and rafters (heaviest pieces) are precast, but gutter section was poured in place. Bents are not stable by themselves, and tie rods hold framing together



CONCRETE has long been a favorite building material in European countries, and for some years now, efforts have been directed toward the development of precast building units—in many cases prestressed to lighten them—in order to speed up construction time and to permit work to start as soon as plans are finished. This avoids unnecessary stoppage or delay of work and also reduces the loss of return on the capital invested in site and buildings.

The three buildings here show some recent work of this nature in Denmark and demonstrate what openness of space and light feeling can be accomplished with precast and prestressed concrete.

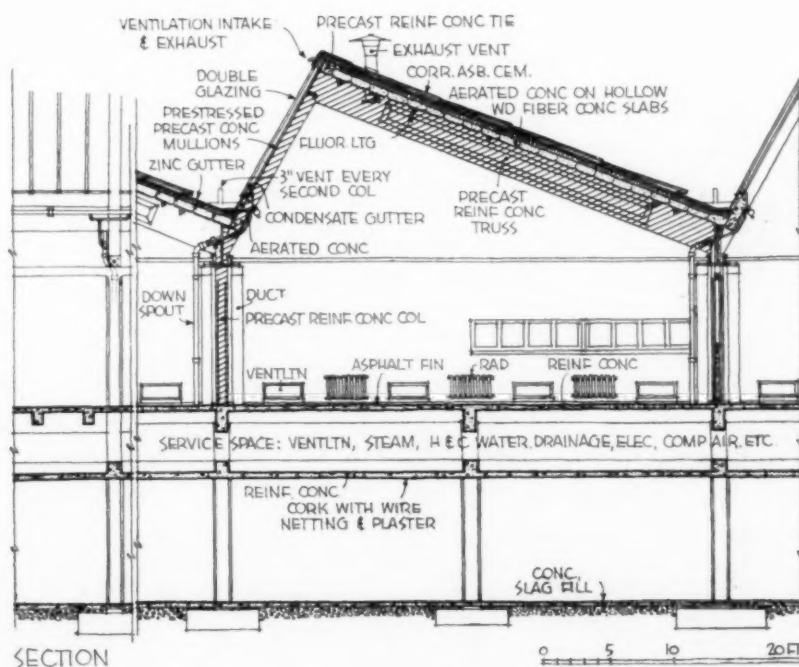
Perhaps more significantly, though, these examples point up graphically the differences between the more mechanized construction methods of the United States as contrasted with those abroad and the consequent effect on the design of the structural system.

For example, instead of being able to bring in huge movable cranes, capable of hoisting heavy rigid frames of concrete as is common practice here, it was necessary in one of these Danish buildings to construct a total of seven erection towers of wood, taller than the building itself, to hoist up the precast rafters for eight bays. And in another, a movable erection bridge (a sort of traveling crane) was built to span between the cast-in-place gutters and columns, with rails in the gutters for the bridge to travel on.

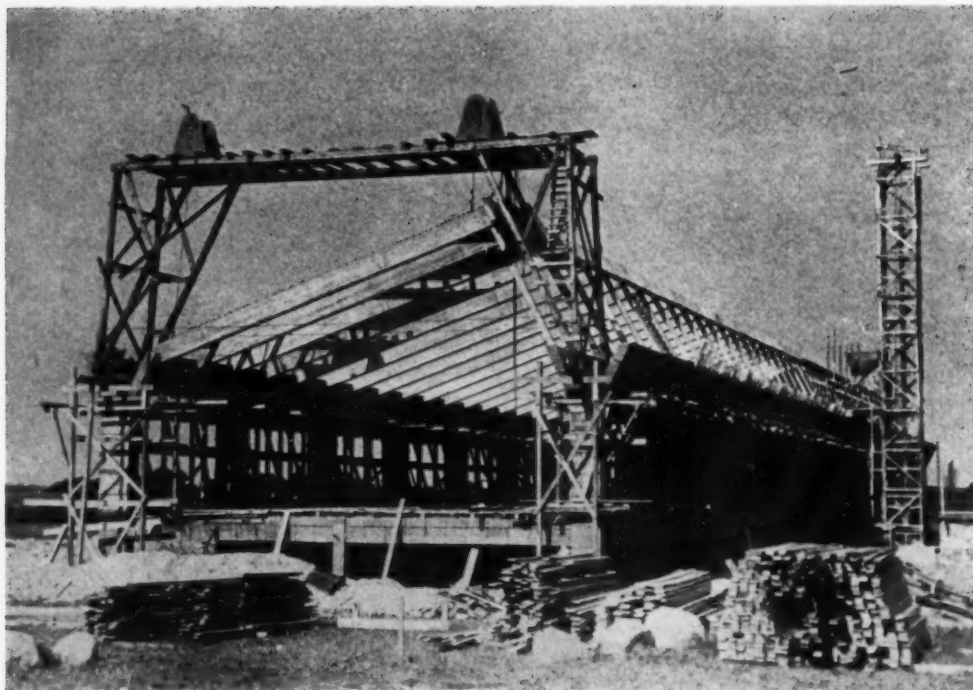
These limitations, of course, determined the size of precast members that could be handled and must have had a great deal to do with the actual structural design.



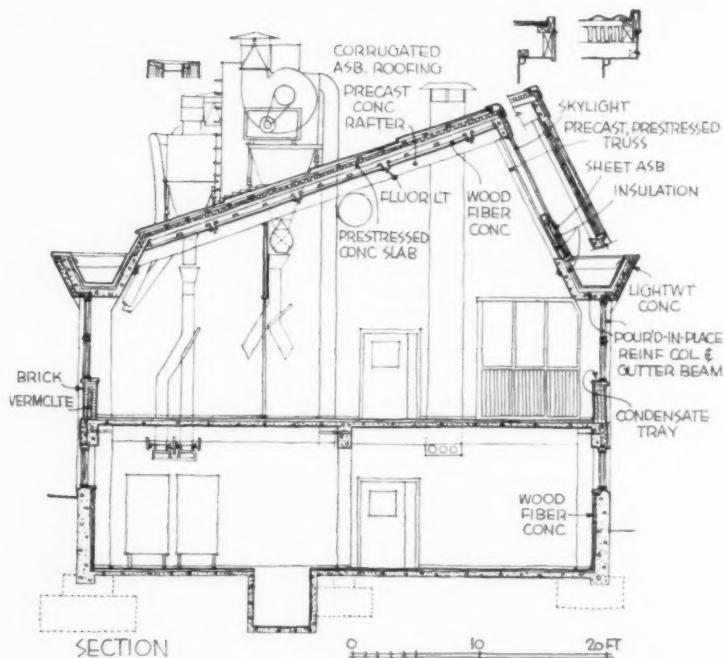
Mullions of the skylight are thin strips of prestressed concrete. Natural light is supplemented by fluorescent lamps mounted on the ceiling. Note how the air conditioning ducts rise up on either side of the column bents and then run horizontally between them.



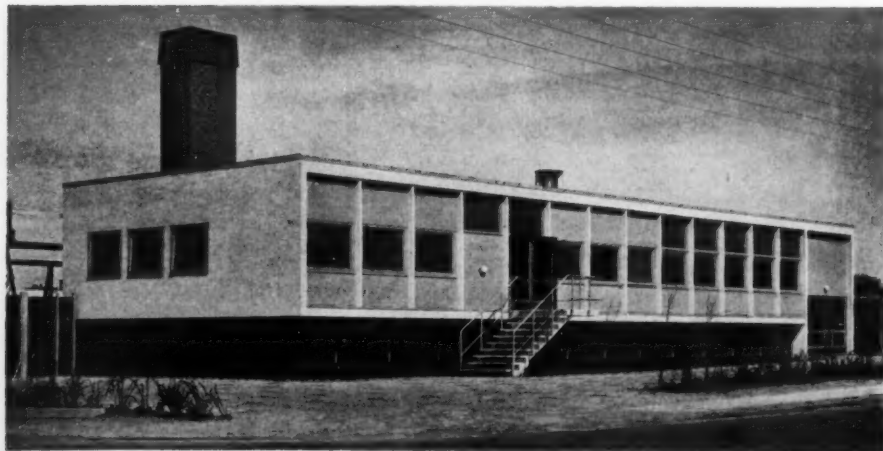
Shading covers the two main precast elements of the frame. Heavy gutter unit was cast in place.



In building the cigarette factory, the columns and the gutters which carry the load of the rafters to the columns were cast in place. The rafters and skylight posts were hoisted into position by this traveling crane which ran on tracks in the gutters. Hoist worked by hand



Below: thin structural mullions are prestressed concrete, and give this office and canteen building a delicate appearance



Carton Manufacturing Plant

This saw-tooth skylight factory of 12,000 sq ft, with column spacing 20 by 40 ft, employed three types of precast units: a column bent, 1 ft sq and weighing 3750 lb; a rafter 34 ft long, 12 by 29 in., weighing 12,000 lb; and a ridge beam 20 ft long, 12 by 14 in., weighing 3740 lb. As mentioned before, seven erection towers, mounted on the finished floor slab, with the operating platform above the structure, hoisted up the cured units which had been cast on the floor slab under the spot where they were to be used. Columns, the I-shaped rafters and ridge beams were raised in that order. Then the gutter, because of its size and weight, was cast in place.

The whole skeleton construction is held together by tie rods, anchored by bolts to the columns. The later expansion of the tie rods was accommodated during assembly by placing the columns slightly out of plumb, so that when the roof slabs were laid, the rods became tensioned and the columns plumb.

Cigarette Factory

Here again skylight design was used, but the columns and gutters both were cast in place, the gutters being designed to carry the load of the rafters to the columns and down to the foundation.

The concrete rafters (7½ by 20 in.) were precast on the floor slab, and both prestressed and precast mullions were employed in the skylight. The superstructure was assembled by the means of the erection bridge which had a hand winch for lifting the concrete members.

PRODUCTS for Better Building

Equipment for Schools

A number of new products of special interest to architects engaged in school design have recently been marketed. Among the many varied pieces of equipment are the following items:

- The *Space-Master*, a desk and chair unit described as a new idea in classroom seating, features a modular design which permits both the desks and the chairs to be stacked or nested to save space when it is desired to use the classroom for special activities. Desks and chairs can be stacked atop each other and stored in a corner or against a wall. The desks can also be nested together in rows. The units are reported to be sturdy in construction and easy to maintain. The desk has a large sloping writing surface and a roomy book box. A scratch-proof plastic writing surface is available if desired. Legs of both desk and chair are made of one-piece hollow metal tubing. E. W. A. Rowles Co., Arlington Heights, Ill.

- *Nu-Rite* glass crayon boards are especially designed for use with the manufacturer's *Ezy-erase* water-soluble wax crayons. Together, the products are reported to solve the problems of stain and dust commonly associated with the employment of colored chalks. The crayons are said to be dust-free and stain-proof and can be easily erased with a moist cloth, sponge or tissue, since the wax base dissolves instantly in contact with water. At present, they are available in six colors — red, blue, violet, green, brown and black. Their hexagonal shape reportedly suits them for marking in fine and broad lines, as well as for shading.

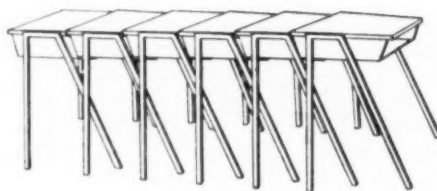
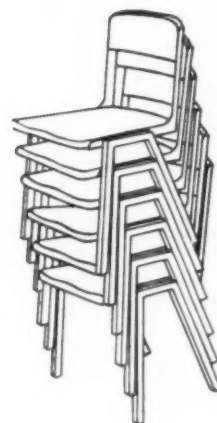
The boards are made of plate glass with a vitreous enamel surface and are available in light green, buff or ivory. Light reflectivity factors, as determined by laboratory tests, are 53 for ivory, 39 for green and 38 for buff. The flat surface of the boards is said to minimize glare, despite the high reflectivity of the colors. New York Silicate Book Slate Co., 541 Lexington Ave., New York 22, N. Y.

- A new window introduced by *Ludman* is reported to be the first ever designed specifically for schools. Similar in all

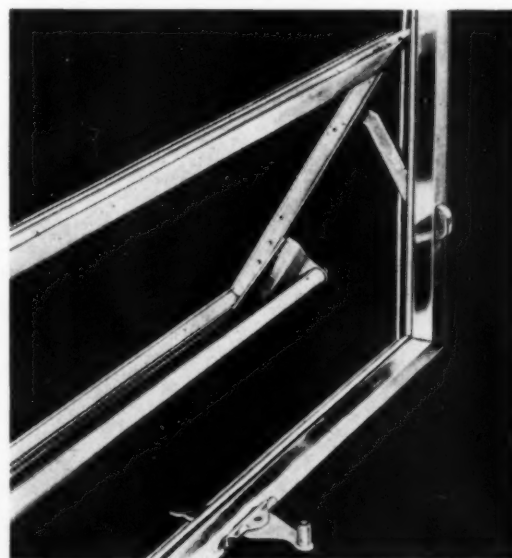
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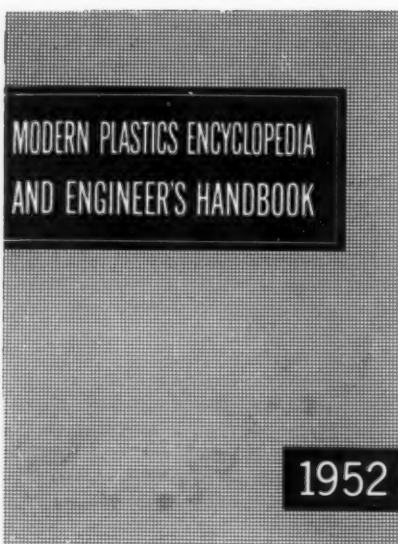
Desk and chair unit, above, may be stacked or nested as illustrated in sketches below and right



Awning window especially designed for schools has push-out vent operation



LITERATURE FOR THE OFFICE



Book includes material on processing methods for commonly used plastics

Plastics Encyclopedia

Modern Plastics Encyclopedia and Engineers' Handbook. 16th Edition. This large and comprehensive volume contains information on every practical method of processing all commonly used plastic materials. General sections include Engineering and Methods, Fabricating and Finishing, Machinery and Equipment, Resins and Moulding Compounds, Chemicals for Plastics, Fillers and Reinforcements, and a technical section. Each of these is subdivided into more specific categories. An extensive directory of manufacturers and suppliers, listed according to categories of products and services, is included. 848 pp., illus. Price \$2.00. Plastics Catalogue Corp., 575 Madison Ave., New York 22, N. Y.

Rubber Flooring

Facts About Rubber Floors. Booklet describes simply and briefly features of rubber flooring, with information on manufacture and installation, and recommendations for proper maintenance. 16 pp., illus., Rubber Manufacturers Association, Rubber Flooring Div., 444 Madison Ave., New York 22, N. Y.

* Other product information in *Sweet's File, 1952.*

Industrial Heaters

Thermobloc, the Finest Industrial Heaters for Your Plant. Catalogue NGC-10-52. General catalog of the manufacturer's line of industrial heaters lists features and depicts various models and typical installations. Specifications and dimensions are listed, and a full-color cutaway drawing illustrates the operation of the units. 8 pp., illus. Thermobloc Div., Prat-Daniel Corp., South Norwalk, Conn.

Aluminum Products Glossary

Nomenclature; A Glossary of Terms for Aluminum Sheet and Plate and Aluminum Extruded and Tubular Products. Designed to promote better understanding between producers and consumers of aluminum products, this little booklet contains definitions of sheet and plate products, miscellaneous terms applicable to sheet and plate products, definitions of extruded and tubular products and miscellaneous terms applicable to these. 20 pp. The Aluminum Association, 420 Lexington Ave., New York 17, N. Y.

New Design For Automatic Sprinklers

New Developments in Upright Sprinklers, by Norman J. Thompson. Pamphlet describes a change in design of automatic sprinklers, said to be particularly useful for locations where the water supply is scant or where the fire hazard approaches the limit of ordinary sprinkler capacity. 19 pp., illus. National Fire Protection Association, 60 Battery-march St., Boston, Mass.

Steel Cabinets

Penco Steel Cabinets, Catalogue No. C-200. Brochure illustrates the manufacturer's complete line of storage wardrobe and combination cabinets in both single-door and double-door types, and including desk-high, counter-high and tool cabinets. Construction details and specifications are included. 8 pp., illus. Penn Metal Corp. of Pa., 50 Oregon Ave., Philadelphia 48, Pa.*

Concrete Masonry Construction

Suggested Details of Concrete Masonry Construction. Booklet consists of drawings which illustrate various recommended details for construction and design with concrete masonry. All the drawings were prepared in accordance with modular design coordination, based on a 4-in. module. Drawings of some typical patterns used in concrete masonry construction are included. 16 pp., illus. Portland Cement Association, 33 W. Grand Ave., Chicago 10, Ill.*

Corrosion-Proof Cements

Atlas Corrosion-Proof Cements. Bulletin describes four basic types of cements with charts showing the temperature range of each cement and its resistance to broad classes of corrosives. Each cement is also rated specifically in relation to 176 common chemical materials. Three principal methods of acid-proof brick and cement construction are shown, and estimating tables are furnished for each. 12 pp., illus. Atlas Mineral Products Co., 8 Walnut St., Mertz-town, Pa.

Folding Wood Doors

Ra-Tox Folding Doors. Brochure of manufacturer's folding doors illustrates suggested applications, lists technical and functional advantages. Specifications and details are included. 4 pp., illus. Hough Shade Corp., Ra-Tox Div., Janesville, Wis.*

Industrial Insulations

Baldwin-Hill Industrial Insulations. Catalog describes the manufacturer's industrial insulation products for a temperature range from 150 to 1800 deg F. Among products illustrated are insulating cement, block, blanket, felt and pipe covering. Products are described briefly, together with information on typical uses, sizes, densities and packaging. Thermal-conductivity graphs and heat loss charts are included. 20 pp., illus. Baldwin-Hill Co., 1056 Breunig Ave., Trenton, N. J.

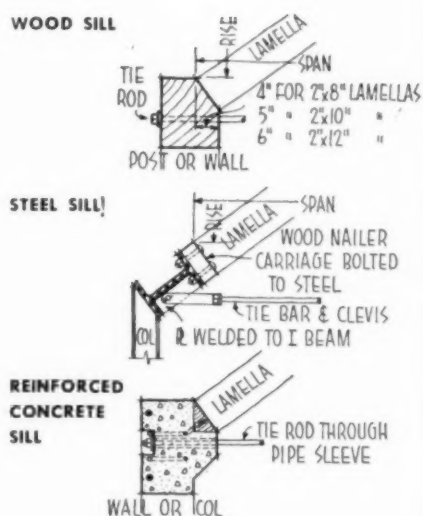
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STRUCTURAL FORMS-12: Long Spans in Wood

By Seymour Howard, Architect, Instructor at Pratt Institute

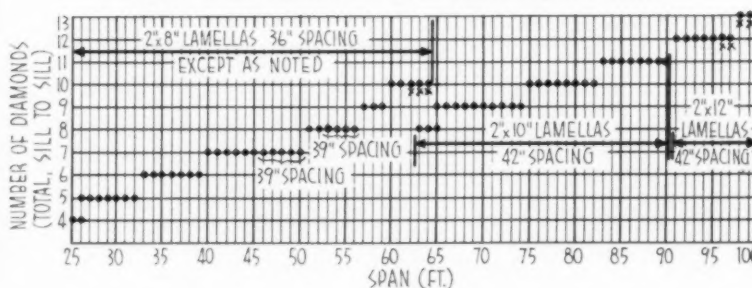
STANDARD LAMELLA ROOF CONSTRUCTION DATA (Continued)

TYPICAL SILL DETAILS



Note: Sills must be designed for both vertical & horizontal (thrust) components of reaction

"STANDARD" LAMELLA ROOF CONSTRUCTION DATA



Rise = $\frac{1}{8}$ span
Radius = $\frac{1}{8}$ span

Except spans marked x, for which see table

Thrust = approx $(21.6 \times \text{span} - 30)$ lbs per lin ft. Based on 20 lbs/sq ft live load

| SPAN | RISE | RADIUS | SPAN | RISE | RADIUS |
|-------|--------------|--------------|--------|--------------|--------------|
| 62 ft | 10 ft- 8 in. | 50 ft- 4 in. | 97 ft | 17 ft- 8 in. | 75 ft- 5 in. |
| 63 ft | 10 ft-10 in. | 51 ft- 3 in. | 98 ft | 17 ft-10 in. | 76 ft- 3 in. |
| 64 ft | 11 ft- 8 in. | 49 ft- 9 in. | 99 ft | 18 ft- 0 in. | 77 ft- 1 in. |
| 96 ft | 16 ft-10 in. | 76 ft-10 in. | 100 ft | 18 ft- 2 in. | 77 ft-11 in. |

Note: Information based on data furnished by Summerbell Roof Structures, Los Angeles 11, Calif.

ADDENDA FOR TIME-SAVER STANDARDS ON WOOD STRUCTURAL FORMS.

Sheet 5 (T.S.S., Sept. 1952): Characteristics under "General Considerations of Wood as a Structural Material" refer, in order, to listing of consequences in opposite column.

Sheet 6 (T.S.S., Sept. 1952): Table of bending radii is based on the straight line formula of the "National Design Specification." Smaller minimum radii can be used. The Forest Products Laboratory (paper *Laminating Structural Wood by Gluing*, D 1635) and Timber Structures Inc. recommend radii in table, right.

Sheet 6, Under *Kinds of Wood*, Paragraph 2: "Gluing of treated wood is very difficult, almost impossible with creosoted wood. Techniques are being developed, but it is best to treat wood after gluing."

Sheet 7, Methods of arranging plies: "Method 1 shown for arranging laminations is used more than 90 per cent of the time. The lower face, since it is usually visible from below, is the one to which all other laminations are made parallel. The diagrams showing methods 1 and 2 are upside down for usual conditions."

"Note also that the slope of grain

in any lamination must be measured with respect to the neutral axis of the frame or arch."

Sheet 7, Typical fastening details: "A 1-in. air space should be provided around all wood built into masonry."

Bibliography:

Rigid frames (3-hinged) based on information furnished by Timber Structures, Inc., Portland 8, Ore.

Arches (2-hinged) based on curves and tables by Summerbell Roof Structures, Los Angeles 11, Calif.

Rigid frames and arches checked against information furnished by:

Unit Structures, Inc., Peshtigo, Wis.; Rilco Laminated Products, Inc., St. Paul, Minn.;

McKeown Bros. Co., Chicago 32, Ill.

General information based on:

Fabrication and Design of Glued Laminated Wood Structural Members, preview copy, Forest Products Lab., Madison 5, Wis.

National Design Specification, Nat'l Lumber Manufacturers Association, Washington 6, D. C., revised 1951.

Engineering Laminates, by A. G. H. Dietz, John Wiley & Sons, Inc., 440 Fourth Ave., New York 16, N. Y., 1949.

| Thickness | Douglas Fir; S.Y.P. (F.P.L.) | Douglas Fir (T.S.) | Oak (F.P.L.) |
|----------------|---------------------------------|-----------------------|-----------------|
| $\frac{1}{4}$ | 2-7 | 2-1 | 1 ft-6 in. |
| $\frac{3}{8}$ | 3-5 | 3-1 | 2-0 |
| $\frac{1}{2}$ | 4-3 | 4-0 | 2-6 |
| $\frac{5}{8}$ | 5-3 | — | 3-0 |
| $\frac{3}{4}$ | 6-2 | 6-0 | 3-7 |
| $\frac{7}{8}$ | 8-2 | 7-8 | 4-10 |
| 1 | 10-5 | 9-4 | 6-1 |
| $1\frac{1}{8}$ | 11-5 | — | 6-7 |
| $1\frac{1}{4}$ | 14-5 | — | 8-9 |
| $1\frac{3}{8}$ | — | 15-10 | — |
| $1\frac{1}{2}$ | 18-11 | — | 11 ft-8 in. |
| $1\frac{5}{8}$ | 23-7 | 20-10 | 14-8 |
| $1\frac{3}{4}$ | — | 23-0 | — |
| $1\frac{7}{8}$ | 26-11 | — | 18-1 |
| 2 | 33-4 | — | 21-4 |

Where Comfortable, Economical Public Seating Is
Called For, Leading Architects Everywhere Specify

Samson Folding Chairs



Veterans Memorial Building, Detroit, Michigan

Architects: Harley, Ellington & Day, Inc.

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● Pittsburgh Testing Laboratories conducted scientific tests of the famous Samson 2600 Series chair, shown above. They found it substantial, well-balanced and properly shaped for comfort. It's America's Number One Public Seating Buy!

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NATURALLY, more architects specify famous Samson Folding Chairs than any other kind. They are outstanding in every way, because they offer you—

Low Cost! Original investment is soon amortized. Special low prices on quantity orders. Ask your distributor or write direct.

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Long Life! Many Samson installations have been in service for years without a single replacement.

Leading Users Of Samson Folding Chairs Include These Well-Known Names

Ford Motor Company, Dearborn, Mich.; Wilton Academy, Wilton, Me.; Prospect Park Council Clubhouse, Knights of Columbus, Brooklyn, N. Y.; Grace Lutheran Church, Stratford, Conn.; Milenoff Ballet Theatre, Coral Gables, Fla.; Claremont Hotel, Berkeley, Calif.; Baldwin High School, Jacksonville, Fla.; Norwegian-America Line Agency, Inc., New York, N. Y.



Strong Enough To Stand On!

THERE'S A SAMSON FOLDING CHAIR
FOR EVERY PUBLIC SEATING NEED

Shwayder Bros., Inc., Public Seating Division, Dept. S-1, Detroit 29, Mich.
ALSO MAKERS OF FAMOUS SAMSON FOLDAWAY FURNITURE FOR THE HOME AND SMART SAMSONITE LUGGAGE FOR TRAVEL

METAL LATH MEMBRANE FIREPROOFING-1

Presented through the cooperation of Metal Lath Manufacturers' Association

Metal Lath Membrane Fireproofing

In many conventionally fireproofed multi-story steel-framed buildings, at least 15 per cent of the structural steel is devoted to supporting its own fireproofing. Much of this steel can be saved by eliminating heavy individual encasement of beams and girders and replacing it with a thin lightweight fire-resistive ceiling stretching from wall to wall beneath the structural members.

To fully realize the savings in this type of construction, the membrane fireproofing must be incorporated in the original design. Lightweight floors — such as thin concrete decks over cellular steel panels, junior beams and steel joists, which are often difficult to fire protect by individually encasing each element — may be made eligible for use in fireproof buildings by a metal lath fire-resistive ceiling.

By employing lighter fireproofing, lighter floors, lighter structural members and chasing these reduced loads right down to smaller footings, a designer can often total considerable weight saving, with consequent reduction in costs.

Other economies can be added to the savings made in the structural frame. Concrete forms are eliminated. Construction time is reduced because plumbers, electricians, sheet metal workers and other trades can go to

work sooner when supporting shores for concrete form work are not required.

Metal lath and plaster fireproofing can also serve as a durable and attractive interior finish.

The American Society for Testing Materials and the American Standards Association have established standard procedures for fire testing building materials and constructions, and rating them in terms of time.

Such nationally-recognized building codes as the BOCA Basic Code, the Southern Standard Building Code, the National Board of Fire Underwriters Code and the Pacific Coast Uniform Building Code recognize performance standards and specify fire resistance in terms of hours. The use of tested membrane fireproofing permits the design of the degree of fire resistance desired.

Materials Used in Metal Lath Membrane Fireproofing

METAL LATH

Metal lath serves as both plaster base and steel reinforcing. Resilient steel embedded in the plaster helps keep fireproofing in place when it may be needed most — such as after an earthquake; expanded metal lath, with its thousands of small uniquely-shaped openings, also helps prevent fireproofing membranes from spalling under intense heat.

Since metal lath acts as a struc-

tural "backbone" for fireproofing construction, the weight and type of lath is determined by span between supports. To resist corrosion, metal lath is generally made from copper alloy steel and painted after fabrication with a rust inhibitive paint. Tests prove that standard lathing procedures are entirely adequate for membrane fireproofing. These procedures are outlined in "Specifications for Metal Lathings and Furring," available on request from the Metal Lath Manufacturers' Assn.

GYPSUM PLASTER

Gypsum rock is crystalline calcium sulphate. When ground into powder, then heated or cooked, gypsum releases a great part of its water of crystallization. By adding water to this calcined gypsum plaster, a plastic material is created that is easily applied to walls and ceilings. Gradually the gypsum recombines with the water to form crystals and reverts to its original rock-like state.

This ability of gypsum to release water when heated to high temperatures makes it an outstanding fireproofing material. In slowly going from "dry" water to steam, water of crystallization actually absorbs heat from the flames. The opposite side of the gypsum remains relatively cool until all the water is gone.

The more gypsum in plaster, the better the "sprinkler system" that is available to combat a fire. It is important in all membrane fireproofing to specify plaster mix and thickness.

When sand aggregate is used, plaster is proportioned by weight. The accepted practice when lightweight aggregates are used is to specify the amount of gypsum by weight and the aggregate by volume. A mix of 100:2 means that 100 lbs of gypsum, or one sack, is mixed with 2 cu ft of aggregate. Lightweight aggregates usually are packed 4 cu ft to a sack.

Neat wood-fibered gypsum plaster is a mill prepared base coat plaster containing a wood fiber aggregate and requiring the addition of water only on the job. It is from 50 to 100 per cent more effective as a fireproofing material than standard mixes of gypsum-sanded plaster.

Fire Resistance Rating of Beam, Girder or Truss

Metal Lath Membrane Fireproofing

4-hours

1" gypsum-vermiculite or perlite plaster 100:2, 100:3

4-hours

3/4" gypsum-vermiculite base plaster 100:2, 100:3 plus 1/2" vermiculite acoustic plastic

3-hours

3/4" gypsum-vermiculite plaster 100:2, 100:3

3-hours

1" neat wood-fibered gypsum plaster

2-hours

1" gypsum-sanded plaster 1:2, 1:3

2-hours

1" sprayed fiber

1 1/2-hour

3/4" Portland cement or gypsum-sanded plaster 1:2, 1:3



HEAVY DUTY—HEADER TYPE

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for Schools, Hotels, Hospitals, Apartments, Churches, Theaters

No additional steam header required! We furnish it as part of the boiler.

Swinging connections! No vibration! No pulsation!

Ample flue clean-out doors!

No iron to iron joints! Expansion and contraction troubles eliminated!

Plenty of room for stoker, oil burner, or gas conversion burner!

You tell us the steam header connections you want, we will furnish them at no extra cost.

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Tapped per your specification for indirect water heater.

Dry steam! All entrained water returned to the boiler!

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Made of
DURABLE CAST IRON

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1. **CONTINUOUS SERVICE**—Any heating plant will break if carelessly operated. Broken sections in Prox Boilers can be plugged off and heat maintained, avoiding dismissal of school or closing of building.
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4. **QUICK, DRY-STEAMING**—Low water line, small waterways, quick circulation, dry steam assured by steam-separating header over Prox Boilers.
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and you'll specify **PROX**

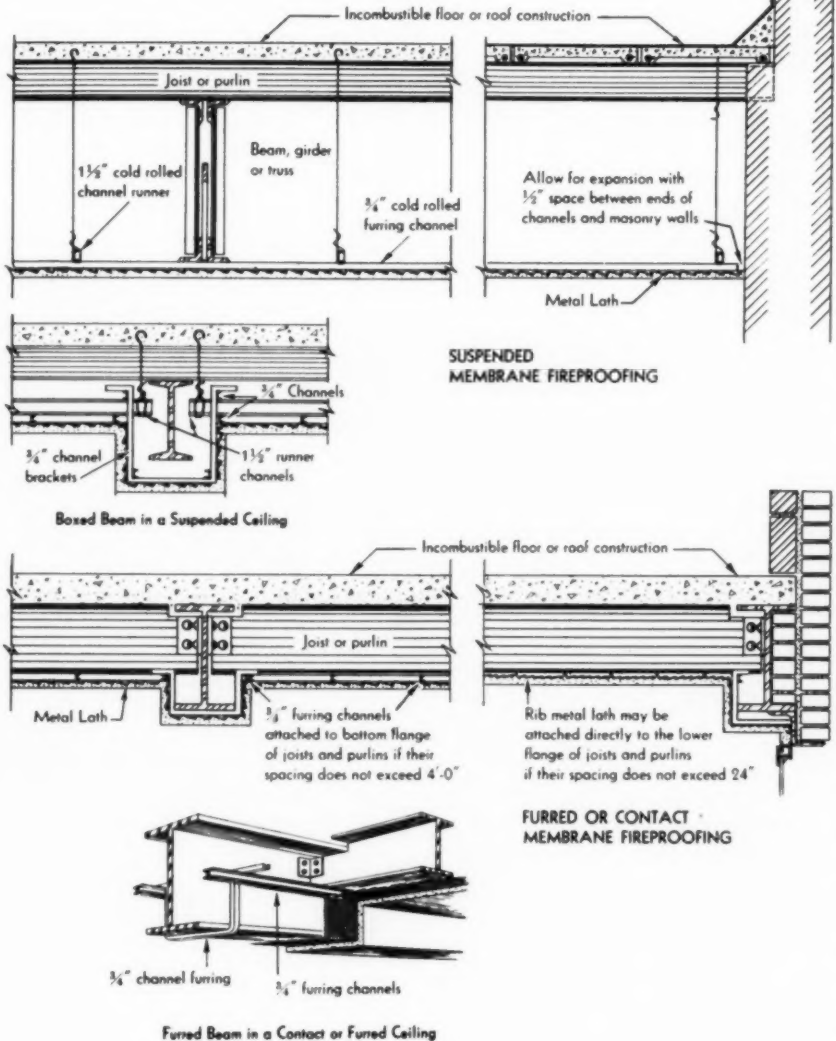
FRANK PROX COMPANY, INC.

1201 SOUTH FIRST STREET

• TERRE HAUTE, INDIANA

METAL LATH MEMBRANE FIREPROOFING-2

Presented through the cooperation of Metal Lath Manufacturers' Association



SPRAYED FIBER

Asbestos and mineral wool fabrics sprayed on metal lath make a ceiling with good acoustical absorption, excellent thermal insulation and is an efficient fireproofing construction.

The fibers are factory-mixed with a dry binder, and come to the job ready to apply. It is blown from a special "gun," which mixes dry fibers in mid-air with a thin spray of water to dampen the binder and produce a light fluffy blanket on the metal lath. Tamping with a cork float gives an even finish, and tests conducted at the National Bureau of Standards indicate that it may be spray painted repeatedly without destroying acoustical properties.

Sprayed fiber mixtures may vary among manufacturers; many recognized brands may be found under the Reexamination Service of the Underwriters' Laboratories, Inc.

LIGHTWEIGHT AGGREGATES

Pelite and vermiculite are two lightweight aggregates used in metal lath and plaster fireproofing. They weigh about 1/10 as much as sand, and their use results in substantial dead load savings, especially in multi-story structures. For strong plaster, lightweight aggregates should weigh no less than 7 1/2 lbs per cu ft.

Pelite is "popped" from a volcanic ore to many times its original size by quick heating to 1800 F. The resulting material resembles small glass-like bubbles. Vermiculite is a laminated mica-mineral, which expands when heated to around 2000 F.

These products in gypsum plaster provide greater fire protection than sanded plaster for two reasons. Lightweight aggregates are excellent insulators, and gypsum plaster made with them releases its chemically-combined water more slowly when exposed to flames. There is less distortion of ceilings and partitions under extreme temperatures because lightweight aggregates have a low coefficient of expansion compared to sand.

Fireproofing for Beams, Girders, Trusses

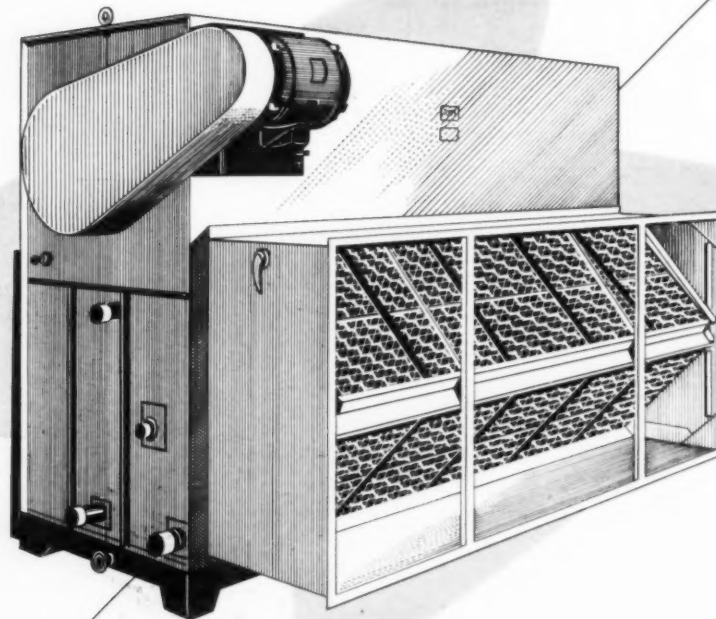
In addition to protecting metal decks, steel joists and purlins, a fire-resistant ceiling will fireproof the

WEIGHTS OF METAL LATH AND PLASTER FIREPROOFING

| | Weight In Pounds Per Square Foot |
|---|-------------------------------------|
| Contact Ceilings | |
| 3/4" gypsum-sanded plaster..... | 9.5 psf |
| 3/4" gypsum-lightweight aggregate plaster..... | 4.5 psf |
| 1" gypsum-sanded plaster..... | 11.5 psf |
| 1" gypsum-lightweight aggregate plaster..... | 5.5 psf |
| Furred or Suspended Ceilings | |
| 3/4" gypsum-sanded plaster..... | 10 psf |
| 3/4" gypsum-lightweight aggregate plaster..... | 5 psf |
| 1" gypsum-sanded plaster..... | 12 psf |
| 1" gypsum-lightweight aggregate plaster..... | 6 psf |
| Columns | |
| Gypsum-lightweight aggregate plaster on self-furring metal lath | |
| 1 3/4" thick..... | 9 psf |
| 1 1/2" thick..... | 7.5 psf |
| 1" thick..... | 5.5 psf |

MODERN AIR HANDLING UNITS FOR THE MODERN ARCHITECT

by bush



Flexibility is of prime importance in modern air handling units. The Bush line offers this essential flexibility.

Provision is made in all units for both heating and cooling coils. Accessories such as humidifiers, filters, face and by-pass dampers and mixing boxes are adaptable to all models.

Bush air handling units come in a wide range of sizes. Eleven models are available: from 800 to 22,000 CFM, and from 1.5 to 90 tons.

Units are available for either vertical or horizontal installation. Larger units are constructed in two sections.

Get acquainted with the Bush Sales Engineer in your area — he'll be a big help in planning and specifying refrigeration, air conditioning and heating.

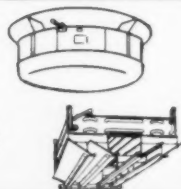
ARCHITECT'S FILE

Complete file especially prepared for architects and engineers contains valuable engineering data, specifications, etc. on refrigeration, air conditioning and heating. Write for copy on your letter-head.



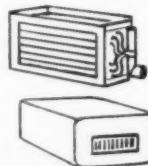
REFRIGERATION

Unit coolers
Plasti-coolers
Product coolers
Thermo-cycle low temperature units
Electric and Water defrost units



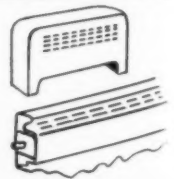
AIR CONDITIONING

Air Handling Units
Steam Coils
Water Coils
Direct Expansion Coils
Evaporative Condensers
Cooling Towers
Comfort Conditioners



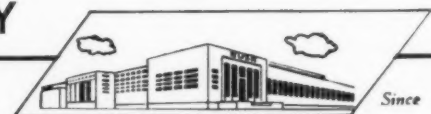
HEATING

Finned Pipe Radiation
Baseboard Radiation
Convactor Radiation
Steam Coils
Hot Water Coils
Booster Coils
Blast Heaters



BUSH MANUFACTURING COMPANY

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Since 1907

METAL LATH MEMBRANE FIREPROOFING-3

Presented through the cooperation of Metal Lath Manufacturers' Association

primary members such as beams, girders and trusses, and thus give considerable savings.

As hot gases and flames rush upward in a burning building, a good solution to fireproofing is to place an insulating membrane between the structural steel and the fire below.

The table of fire ratings on page 211 is a conservative evaluation of many fire tests, conducted for the most part at the National Bureau of Standards. Usually these structural members have been tested as part of lightweight floor assemblies with a 2 or 2½ in. concrete floor slab.

These tests are reported in the Bureau's BMS-92 from which this following pertinent quotation is taken:

"It is noted that fire-resistance ratings are based on the performance of members near the lower range in size. For larger size members used in all but the upper stories of such high buildings, there would be considerable increase in fire resistance above the nominal ratings for the same kind and thickness of protecting materials."

Metal lath ceilings may be furred with ¾ in. channels or suspended below the structural steel as the condition may require. Rib metal lath may be attached directly to the bottom flange of joists, purlins and other secondary members if their spacing does not exceed 24 in.

The ratings listed are for non-combustible construction sealed between a ceiling and a non-combustible floor. Combustible floor or ceiling finishes are permissible if they are separated from the structural steel by a concrete floor or a fire-protective ceiling.

Where the required fire rating for the primary structural members supporting a floor system is greater than is required for the floor, the membrane fireproofing should be designed for the greatest rating required by any one member, and the remaining structural steel will enjoy an added fire-resistive factor of safety.

A few building codes require that the space above membrane fireproofing be firestopped into more or less arbitrary areas. In non-combusti-

ble construction, it is a costly and unnecessary requirement.

If firestopping is required, it can be accomplished by placing non-combustible materials, such as sheet steel or metal lath and plaster, between the ceiling and the bottom flange of a solid-web beam. Fire-stopping is automatically provided by solid-web structural members which extend from ceiling to floor slab.

However, the American Iron and Steel Institute has this to say about firestopping:

"Where only non-combustible materials are used in the construction, fire-stopping is not essential to prevent the spread of fire within the floor and roof construction. In fact, fire stops within non-combustible floor construction, by confining within a smaller space the heat transmitted from a fire, may prevent dissipation of the heat, intensifying the effects, and do more harm than good."

Air Conditioning and Electrical Outlets

Tests indicate that the function of a fire-protective ceiling is not materially affected by openings for air conditioning and electrical outlets if their total area is not more than 100 sq in. per 100 sq ft of ceiling.

Ceilings of both gypsum-perlite and gypsum-vermiculite plaster on metal lath have been tested *with* and *without* openings. Temperature measurements on the floor surfaces and

the structural steel members show that properly-protected openings make little difference in the fire protection afforded by these ceilings.*

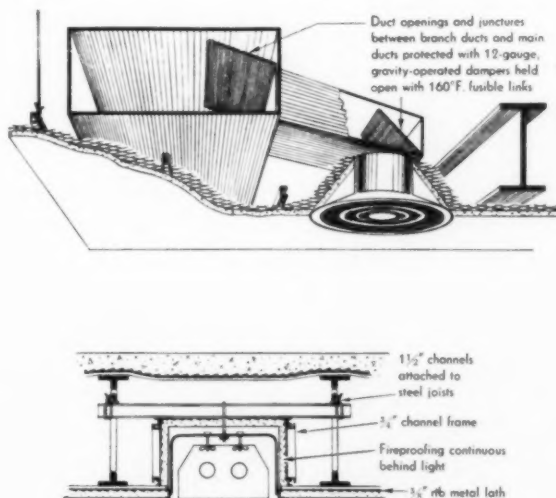
Although these tests were conducted on lightweight cellular steel floor constructions, the results are logically applicable to all membrane fireproofing regardless of the type of floor being protected.

All duct openings and junctures between branch ducts and main ducts must be protected with 12 ga. gravity-operated dampers held open with 160 F fusible links. These are the same type dampers required by building codes to prevent the spread of smoke and gases through duct systems.

The damper at the duct opening should be covered on the exposed side with two layers of asbestos paper 1/32 in. thick. The membrane fireproofing must extend behind air diffusers to meet the duct opening at the section where it is protected by this damper.

When flush-type troffer lights are used, an opening in the fireproofing can be avoided by keeping the protective membrane continuous behind the fixture as shown in the accompanying detail.

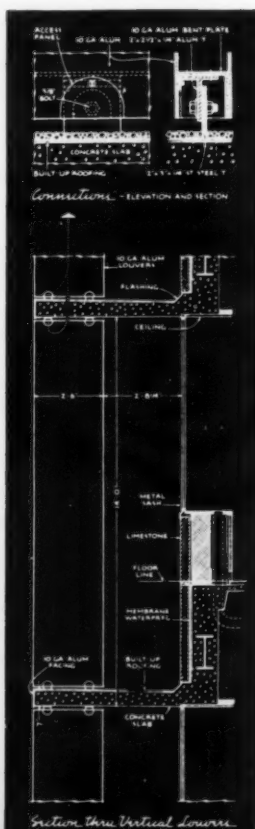
* Tests were conducted at the Underwriters' Laboratories and reported in Retardants 2689, dated 12/18/39 and 12/13/49; Retardant 2993, dated 12/9/48; and Retardant 3355, dated 1/30/51.





“ONLY ALUMINUM COULD LESSEN THE WEIGHT

...MINIMIZE MAINTENANCE



Fixed solar shading of cantilevered canopies and aluminum vertical louvers creates a striking pattern when illuminated at night.

◀ Detail of aluminum louvers.





Pan American Life Insurance Building, New Orleans, La.
Architects: Skidmore, Owings & Merrill and Claude E.
Hooton. General Contractor: George J. Glover, Inc.

WEIGHT MAINTENANCE"

Louvers and windows were fabricated of Alcoa
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According to Vice-President F. W. Gleason of Pan American Life Insurance Co., aluminum was used because, "we were interested in two things . . . lessening the weight and minimizing maintenance. This, in our judgment, can only be accomplished by the use of aluminum."

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throw of bolt
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The extra-long throw of "Stilemaker" locks solves a problem that many architects have had to face... it's specifically designed to handle extreme door shrinkage.

In addition to the $\frac{5}{8}$ " throw, there are many other important features offered by the "Stilemaker" lock... all, tangible reasons for the immediate, country-wide acceptance of this new Russwin product. Give your clients their benefits wherever heavy-duty, quality-made cylindrical locks are to be specified. Send for complete details. Russell & Erwin Division, The American Hardware Corporation, New Britain, Connecticut.

Engineered to
Architects' Specifications

Available in
all popular functions

Knob Styles... in
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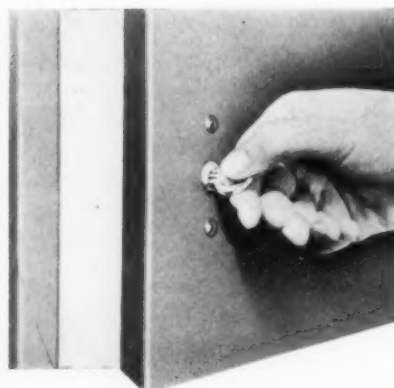
"Stilemaker"

Architectural Engineering

PRODUCTS (Continued from page 205)

respects to the manufacturer's Auto-Lok awning window, the new window features a push-out vent operation which is said to make it particularly practical for institutions. A rigid bar is used to open the window, with operation patterned after the bar-door or fire-door principle. It can be opened to any position up to almost 90 deg. Sliding shoes engaged on the frame reportedly eliminate the possibility of the window slamming closed unexpectedly. The shoe-grip also eliminates projection bars or arm supports, so that such protruding hardware does not detract from building design. All vents are controlled by the bottom vent, so that no poles are needed to open top vents. When the window is closed all vents are automatically locked and the bottom vent is secured by a patented center locking latch. Features cited by the manufacturer as most important include fully controlled ventilation even when it is raining, ease of operation and simple maintenance. Ludman Corp., P. O. Box 4541, Miami, Fla.

- Improved appearance in school corridors and gyms where long lines of lockers must be accommodated is said to be provided by a new *Key Control* locker. Since the key itself doubles as a handle, the



Key control locker eliminates handles, provides projection-free appearance for school corridor installations

Architectural Engineering

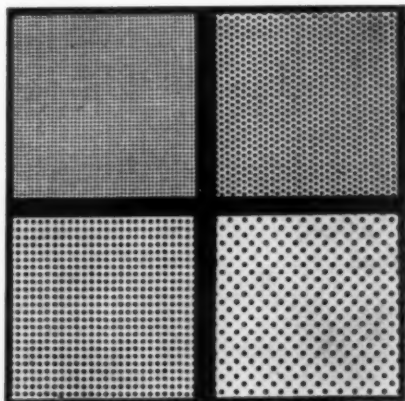
PRODUCTS

front of the locker is kept free of projections. The door pre-locks when the key is removed and locks automatically when the door is closed. A full length three-point latching bar reportedly insures positive locking and resistance to prying. Each locker is equipped with a 14 tumbler duo-lock and two keys. A master key is provided, which fits all locks in an installation. Berger Manufacturing Division, Republic Steel Corp., 1038 Belden Ave., N.E., Canton 5, Ohio.

Non-Metallic Perforated Material

Perforated Fiberok, a non-metallic material, can be used in place of perforated metals and possesses acoustical properties. Its characteristics are said to be comparable to laminated plastics or vulcanized fiber. The material may be stapled, nailed, glued, screwed, cut with shears, knife or scissors.

Available in an unlimited range of colors, the product may be obtained in a



Material may be used in place of perforated metals in many applications, can be cut, nailed or glued

wide variety of perforating patterns, both on square and staggered centers. Gages run from .010 to .125 in., in steps of .010 in., and standard sheet sizes are 40 by 21 in., 40 by 28 in., 40 by 42 in., 40 by

(Continued on page 222)

the new "look" in the San Francisco area

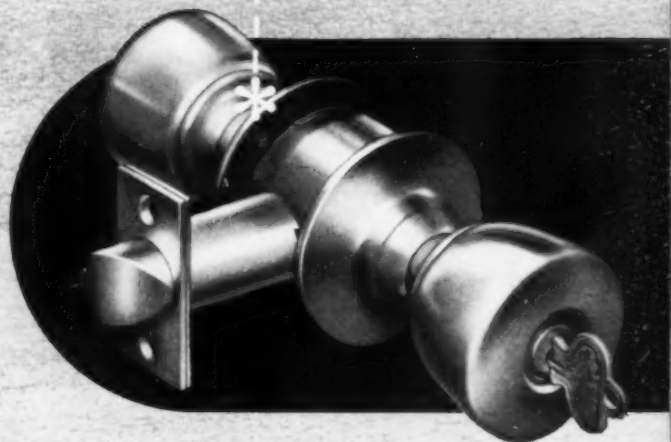


New Classrooms, Gymnasium,
Library, Cafeteria, Auditorium
— College of Saint Mary,
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Architect
Vincent G. Nancy, A. I. A.
233 Post St., San Francisco

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new lock
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Russell & Erwin Division
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RUSSWIN[®] "Stilemaker"

HEAVY-DUTY CYLINDRICAL LOCK



ST. EDWARD HIGH SCHOOL LAKEWOOD, OHIO

Geo. S. Rider Co., Engineers

Cleveland, Ohio

Founded in 1949, St. Edward High School for boys is conducted by the Brothers of Holy Cross. This new \$2 million school building was dedicated April 26, 1952. It boasts the most advanced educational aids and athletic facilities.



IN THE TYPING ROOM—Here, where young eyes must concentrate on close, exacting work, "LUVEX" pours an even flood of glareless illumination into all parts of the room. No danger of squinting, eyestrain-hampered students in this classroom.



George I. Chittenden
Electrical Engineer
Geo. S. Rider Co.

lighting by DAY-BRITE'S "LUVEX"

here's why . . . Better than 80% of learning comes through the eyes.

The Geo. S. Rider Company embodies that fact in their philosophy of school design. They place *good lighting* high on their list of essentials.

George I. Chittenden, the Rider Company's electrical engineer, went to fluorescent lighting in St. Edward High to gain efficiency and lower operating costs.

After careful analysis, he selected Day-Brite's slimline "LUVEX" to handle the lighting job in all critical seeing areas—because . . . "LUVEX" gave him extremely high efficiency—over 83% . . . an all-metal fixture for greater safety . . . a hot-bonded enamel finish that doesn't crack, chip or yellow with age . . . a rigid, one-piece interlocked louver assembly . . . louver spacing wide enough to permit easy cleaning . . . simple relamping from the

top without disturbing a single part of the fixture.

And "LUVEX" cinched its selection by testing out on ease of installation. "LUVEX" runs, suspended on adjustable "A-J" hangers, may be laid in and lined up later—permitting trim, perfectly aligned rows at a big savings in tempers, time and money. Fixtures are easy to handle, won't bend, flex or sag. Knockouts are plentiful and uniformly aligned and through wiring is simplified by self-bushed holes in ends of the chassis.

here's how . . . The typical St. Edward classroom is 22' x 32' with a ceiling height of 11'6". In these rooms, Mr. Chittenden used four rows of "LUVEX" running crosswise, suspended on 18" "A-J" stems. "LUVEX" is one of the very few louvered fixtures on the market with comfortable crosswise shielding.

This layout produces excellent distribution and intensity. Average maintained intensity of illumination is 40 footcandles on the desk tops and 30 footcandles on the chalkboards.

Other classrooms such as the typing room, woodworking shop, band room, etc., are similarly equipped with "LUVEX" with intensities ranging from 35 to 55 footcandles, depending on the seeing task involved.

All corridors and the cafeteria are lighted by Day-Brite fluorescent glass-enclosed troffers.

here's proof . . . Here's another link in the ever-growing chain of evidence that "LUVEX" is the first and natural choice for school lighting. Architects and engineers everywhere are endorsing "LUVEX" by specifying it for new and remodeling school jobs.

If there's a school project on your board or one coming up, it will pay you to get the full "LUVEX" story. Write today.



IN THE LIBRARY—The huge library with a shelf capacity of 10,000 volumes is a comfortable place for study beneath its installation of eighteen 12' rows of "LUVEX." Intensity averages from 45 to 50 fc.



IN THE WOODWORKING SHOP—Good lighting is a must in this well-equipped shop. 55 footcandles of "LUVEX" illumination guarantee easy vision and greater safety for boys working with the power tools.



265

LUVEX PRODUCT DATA: CONSTRUCTION—All metal. Die-formed and welded steel throughout. Ends, sides, center louver, lateral louvers completely pre-assembled and interlocked into rigid, one-piece enclosure. FINISH—HOT-BONDED SUPER-WHITE enamel. WIRING—Certified ballasts, individually wired for unit or continuous installation. UL Approved. AVAILABLE—for two or four 75-watt slimline lamps, standard or 35/45 cutoff. Recommended for suspension mounting only—listing includes "A-J" hangers. Write for catalog sheets. Day-Brite Lighting, Inc., 5465 Bulwer Ave., St. Louis 7, Mo. In Canada: Amalgamated Electric Corp., Ltd., Toronto 6, Ontario.

SAVE

MORE THAN EVER... NEW

Ramset — FULL FASTENING SYSTEM — **JOBMASTER** and *Tru-Set Fasteners* for steel and concrete fastening

★ **10 star values bring new ease, speed, utility and economy**

SEE the new RAMSET JOBMASTER that fastens in **split seconds** into steel or concrete. Check the big, **10-Star Values** for faster, easier, better fastening than ever before. **One-Piece Tool** and **Trigger Action** for quick, simple loading and firing. **Self-contained Barrel Extension**, always ready when needed. **Gas Diverter** to stop spalling. **Visi-Chek Button** and **Manual Safety Control** for positive protection. Exclusive **Roto-Set Safety Shield** for pin-point positioning. All these add up to the greatest work-saving, time-saving, money-saving advantages in the industry.

Always Use Tru-Set Fasteners

When you add these JOBMASTER values to the advantages of Tru-Set Fasteners, with the exclusive Red-Tip Pilot that guides them straight to the work, you've got an unbeatable combination for ease, speed, utility and economy. With 54 sizes and types, there's a Tru-Set Fastener for almost any job. Ask your RAMSET Dealer today for Fastener Specification Booklet, and demonstration of how this RAMSET team can cut fastening costs and get work finished faster. Remember, RAMSET SYSTEM is the pioneer in powder-actuated fastenings—with more users than any other tool.

Ramset Fasteners, Inc.

Division of Olin Industries, Inc.

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Architectural Engineering

PRODUCTS

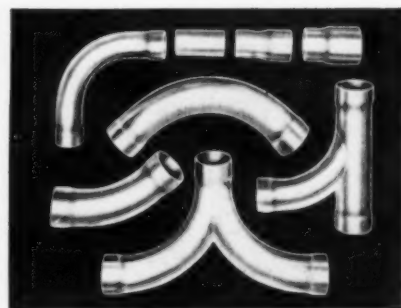
(Continued from page 219)

84 in., 44 by 20 in., 44 by 30 in. and 44 by 60 in.

The manufacturer also offers complete engineering services and is equipped with facilities for outline-diecutting piece parts to blueprints, incorporating odd contours and round or slotted mounting holes. Pearson Industries, 4554 North Broadway, Chicago 40, Ill.

Welded Steel Tubing and Fittings

New welded steel tubing and fittings in standard sizes for use in industrial, commercial, educational and institutional vacuum cleaning systems are now being marketed. Called *H-P VacuFlo* fittings, the products are reported to effect simple and lower-cost installations since tubes may be easily inserted in the flanged ends of the fittings and joints



Welded steel tubing for vacuum cleaning systems is available in standard sizes

can be sealed on the job by either brazing or welding. Various types of mastic are also proving to be satisfactory for joining, according to the manufacturer, although this depends on the performance requirements of the system being installed. A greater volume of carrying capacity than that of cast or drainage type fittings of similar size is also cited. Design is said to help eliminate clogging and to make improper installation virtually impossible. Fittings are produced in 2, 2½ and 3 in. stock sizes, with larger sizes available on special order. H-P Products, Inc., Louisville, Ohio.

(Continued on page 226)

There's nothing deader than yesterday's newspaper. Publishing is a business of timeliness . . . of speed . . . of deadlines. When the nation's newspapers need new presses, there's need for speed in getting them there.

That's a continuous problem of the Goss Printing Press Company, one of America's leading printing press manufacturers. So, when rapid growth in their business called for expansion, the Goss Company, its architects Olsen & Urbain and contractors Sherman Olson, Inc., needed quick deliveries of building supplies to meet "on time" building schedules. That requirement pointed to Ceco, for we meet such emergencies day-after-day . . . year in—year out. Ceco went to work . . . steel bars and welded wire fabric

soon gave reinforcement to a mounting structure . . . steel windows were placed to assure more light and controlled ventilation . . . in record time another building was added to Chicago's industrial skyline.

Once again Ceco's one-source service came through, and expanded facilities at Goss Printing Press Company met delivery deadlines to the nation's press. Ceco one-source service embraces precision engineered steel products, delivered and invoiced from one source, all adding up to faster, more efficient service at savings in money too.

More and more architects, engineers and contractors depend more and more on Ceco for help on building problems.

CITED BY CECO FOR

EXCELLENCE

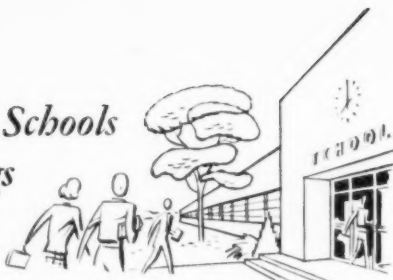
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CECO STEEL PRODUCTS CORPORATION

General Offices: 5601 W. 26th St., Chicago 50, Illinois. • Offices, warehouses and fabricating plants in principal cities.

...for Schools
and All Public Buildings



*A typical installation
of ceiling-hung
Weisart Compartments*

**MODERN APPEARANCE
MAXIMUM CLEANLINESS
ENDURING SERVICE**

For the stamina to withstand the hardest usage and still retain their good looks, specify Weisart toilet compartments. Their enduring serviceability has triple protection, (1) flush steel construction with edges locked and sealed, galvanized surface smooth as furniture steel, (2) Bonderized for additional corrosion resistance and positive adhesion of enamel, (3) synthetic primer and enamel separately baked, combining highly protective surface with lustrous beauty. Choice of 24 colors! Their engineered construction assures long years of service and fine appearance that lasts. Write for new 1953 catalog and chart of 24 colors.

WEISART
COMPARTMENTS

HENRY WEIS MFG. CO., INC., 1103 Weisart Bldg., Elkhart, Ind.

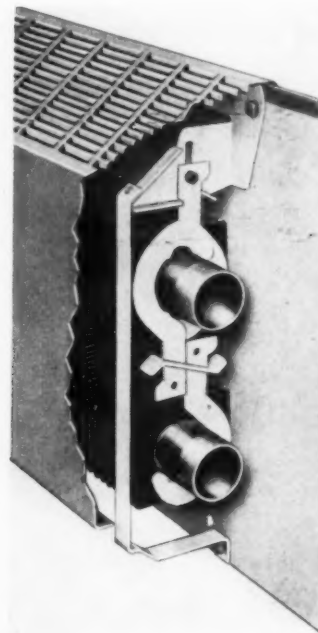
Architectural Engineering

PRODUCTS

(Continued from page 222)

Radiation Unit With Adjustable Hanger

A feature of the *Fin-Vector* type CSOT radiation unit is an adjustable hanger assembly said to permit heating elements to expand and contract freely without damage to walls or to heating elements. The device accommodates both large and small fin sizes, both 1 1/4-in. and 2-in. tubes, and either single or multiple tier



*Hanger assembly permits free expansion
and contraction of heating elements*

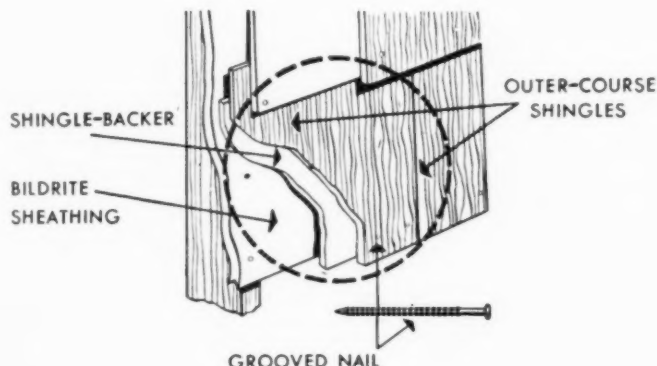
installations. The assembly is also reported to afford a simple method for installing heating elements with a minimum number of fasteners. This is cited as being especially valuable when the units are to be mounted to marble or masonry.

The units are said to insure even heat distribution along outside walls, and may be installed at any height over 4 in. from the floor. Tube ends are designed for fast assembly and covers are formed for quick, simple joining. A full range of sizes of heating elements and covers is

(Continued on page 230)

Philadelphia architect home with Insulite.

One carpenter can sheath 1,000 sq. ft. in 8 hours or less with Bildrite Sheathing . . . cuts sheathing time as much as 43%. What's more, carpenters like to work with Bildrite because it's clean and easy to handle, cut and apply. Comes in wide range of sizes . . . 2'x8' and 4'x8', 9', 10' and 12'. Practically no waste either (as compared with minimum 12% waste with wood sheathing).



Speed shingle application with Shingle-Backer, the new, accepted insulating under-course developed by Insulite. Handy 4-foot panel applies far faster and easier than wood under-course shingles . . . cuts application time in half. Produces deep, uniform shadow-line. Practically eliminates waste. Has tremendous holding power. Wall tested at University of Minnesota resisted winds beyond 250 m.p.h. (Write Insulite for test data).

Free facts for architects. The Insulite Technical Service® Department will gladly furnish you with complete data on Bildrite Sheathing and the new, accepted Insulite Shingle-Backer System. Please have your secretary write Insulite, Minneapolis 2, Minnesota.



INSULITE AND BILDRITE ARE REG. T. M., U. S. PAT. OFF.

Build and insulate with double-duty

INSULITE



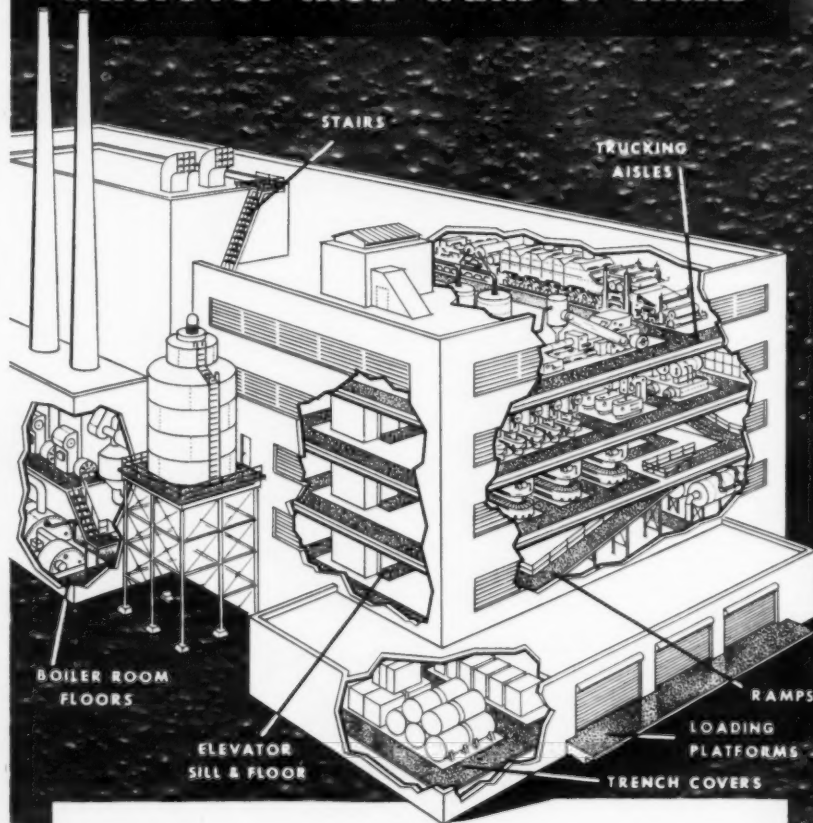
Made of hardy Northern wood



INSULITE DIVISION
Minnesota and Ontario Paper Company
Minneapolis 2, Minnesota

"FOOT-SAFETY FACTOR..."

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It's easy, nowadays, to put foot-safety into your plans. Simply specify A.W. ALGRIP Abrasive Rolled Steel Floor Plate for floors, stairs, ramps and walkways. ALGRIP's exclusive abrasive-grain-and-rolled-steel construction puts hundreds of tiny safety brakes in every footstep—ends dangerous slipping accidents—and assures a lifetime of maintenance-free service. Put foot-safety first in your present plans. Get the facts about positive non-slip ALGRIP Floor Plate now. The handy coupon brings you our free, data-filled, 8-page Booklet.

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Architectural Engineering

PRODUCTS

(Continued from page 226)

reported to substantially reduce on-the-job cutting. C. A. Dunham Co., 400 W. Madison St., Chicago 6, Ill.

Hospital Operating Room Air Conditioner

A floor type operating room unit manufactured by Trane and especially designed for operation in hazardous gas atmospheres combines heating and cooling coils, humidifier, fan and filter in a compact unit said to be capable of accomplishing all phases of year-round air conditioning. All parts of the unit are reported to be safeguarded against explosions. These include spark-proof fans and V-belts, electrical switches and wiring, and explosion-proof class C ether motors. Additional safety factors include provision for drawing all of the conditioned air from the outside, and adequate coil and humidifier capacity to permit wide latitude in the control of both temperature and humidity. When the fans of the unit are off, a damper arrangement shuts off all outside air and allows the reheat coil and cabinet to function as a convector. The unit is controlled pneumatically. Four sizes are available ranging from 200 to 300 cfm capacity. Trane Company, La Crosse, Wis.

Woven Wood Window Treatment

An easily maintained woven wood material is now being put to use in cafe tier curtains, adding distinction to rooms both traditional and contemporary. Solareed #3000 is reversible, and a scalloped heading provides a delicate trim besides permitting the fabric to hang in luxurious folds on any curtain rod. Available in three panel sizes all 30 in. wide and in lengths of 30, 36 and 40 in., the curtains may be obtained in eight decorator shades which include natural, spring green, Indian maize, ebony, chartreuse, chamois beige, beaver brown and cranberry red. American Traverse Co., 59 Walker St., New York 13, N. Y.

(Continued on page 234)

New OPERATIONAL EASE!

Now, windows so simple and easy to close, the youngest child can manage them. Just push-out or pull in. Opened fully or only a fraction vents stay put in any position.

New INSTANTANEOUS WEATHER CONTROL!

All vents can be opened fully or closed as tight as a refrigerator door, in less than one second. Nothing to crank...the Control Bar opens and closes all vents.

Absolutely INJURY-PROOF!

Completely concealed and enclosed Ludman Auto-Lok operating mechanism provides "weightless balance" for every vent. Nothing to jam fingers or catch clothing. No straining.

New VANDAL PROTECTION!

Patented, automatic-locking Ludman Auto-Lok hardware locks each vent separately and independently. New Center Latch locks bottom vent after all other vents lock automatically. Auto-Lok Windows cannot be forced open from the outside!

New MAINTENANCE ECONOMY!

Now, windows that are positively "student-proof!" No parts to work loose...no operator handles to become bent or broken...no gears to become stripped. No adjustments or replacement of any part of the Ludman Auto-Lok operating mechanism necessary ever!

Lifetime TROUBLE-FREE OPERATION!

Auto-Lok Windows are the finest windows ever made for schools. They are the result of years of special research and study of school window problems, and are guaranteed to last a lifetime under the most severe school usage.

MAIL THIS COUPON

today

ARCHITECTS: Write for complete information and specification before you plan another school!

CONTRACTORS & ENGINEERS: Find out why Ludman Auto-Lok Windows for Schools are easier, quicker to install!

SCHOOL BOARD MEMBERS: You can't afford not to get all the facts about this new Ludman Auto-Lok Window, designed exclusively for schools!



LUDMAN
Auto-Lok
AUTOMATIC LOCKING
PATENTED
SCHOOL WINDOW

TIGHTEST CLOSING WINDOW EVER MADE ... seals shut like the door of a refrigerator

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Gentlemen:

Please send me, at once, complete information regarding the new, revolutionary Ludman Auto-Lok Window for Schools.

And, where can I see this new window?

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COMPANY OR SCHOOL BD. _____

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Many of the country's newest and finest schools, like the

LEE
ELEMENTARY
SCHOOL,

Manhattan, Kansas,
are equipped with
LUDMAN
AUTO-LOK
WINDOWS

IN WINDOW ENGINEERING

PRODUCTS

(Continued from page 230)

Metal Corner Protection For Wallboard Construction

Perf-A-Bead, a protective metal bead with regular strips of perforated tape interlocked on each side, is reported to afford metal corner protection for Gypsum Wallboard construction. The device is described as ideal for reinforce-



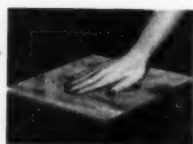
Left: protective metal bead being applied to wallboard corner joint. Below: strips of perforated tape are interlocked into metal bead on each side



Check *Vina-Lux* Quality Against the Field!

Today, it's more important than ever to know the *quality-differences* among vinyl-asbestos tiles. Examine *Vina-Lux* point-by-point and compare it with other similar tiles.

1.



SMOOTH SURFACE

Your own eyes will tell you *Vina-Lux* surface has no peer.

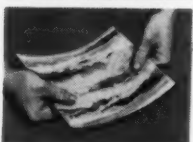
2.



COLOR BRILLIANCE

Look at the colors. Note the wide range. See how bright, how clear *Vina-Lux* colors are.

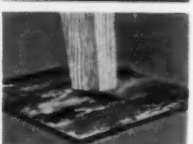
3.



FLEXURAL STRENGTH

Bend a 9" x 9" sample and feel the almost rubber-like flexibility.

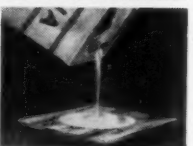
4.



RESISTANCE TO INDENTATION

Put *Vina-Lux* under a straight chair and tilt back—hard! After 24 hours, note how well *Vina-Lux* withstands this type of abuse.

5.



RESISTANCE TO SPECIAL ABUSES

Pour some gasoline, naphtha, alkali or common acid solutions on *Vina-Lux*. After 24 hours, test with your fingernail and see how well *Vina-Lux* stands up.

The new *Vina-Lux* Color Chart is now ready. Ask for it and a set of *Vina-Lux* samples.

UVALDE ROCK ASPHALT CO.

FROST BANK BUILDING • SAN ANTONIO, TEXAS

Makers of AZROCK, AZPHLEX, VINA-LUX, DURACO

"Azrock Makes Fine Floors"



ing outside corner angles, uncased door and window openings, pilasters, beams and soffits. The bead is applied with the manufacturer's *Perf-A-Tape* cement, which is buttered on both sides of the corner over the area to be covered by the bead. The bead is then applied so that the paper flanges are opened and the strip is then positioned into place. Both metal and paper are embedded in the cement and are then covered with a smooth fill of cement. When this has dried, a second and a third coat are added. The bead is available in 8-ft lengths and is packed in 125 piece master cartons and 25 piece junior cartons. United States Gypsum Co., Dept. 122, 300 W. Adams St., Chicago 6, Ill.

Synthetic Fiber for Textile Field

Containing as basic raw materials petroleum and brine, *Saran*, a development of the Dow Chemical Company, has recently been introduced to the textile field. Capable of being woven into a variety of textures for drapery and upholstery fabrics, the yarn can also be made into carpeting, and it is currently in an experimental stage for use in apparel for men and women. Formerly employed in automobile seat covers, outdoor furniture, luggage covering, window screening and the like, along with many industrial applications, *Saran* has numerous outstanding properties. These include being impervious to mois-

(Continued on page 238)



THE SINGLE-STORY WINGS of the new Gadsen Junior High School, Gadsen, New Mexico, can easily be expanded at the ends to provide for senior high school facilities as they become necessary. Concerning the use of PC Functional Glass Blocks in this flexible design, Architect Mathews says: "Evenness of indoor light distribution is very important in our part of the country because of the bright sunlight. If we had used any other type of fenestration in the size areas required by state law, the classrooms would have been too bright for comfort." Architect: Truman J. Mathews, Santa Fe, New Mexico; Consulting Engineers: Davis & Foster, El Paso, Texas; General Contractor: Gilchrist Construction Co., Inc., Las Cruces, New Mexico.



THIS RENDERING of two identical new elementary schools—the Monty Street School and the Bailey Avenue School of Plattsburg, New York, illustrates, in the words of Architect Jack M. Sayer, "... an excellent example of good design in a case where the buildings had to be designed as simply as possible 'architecturally' in order to meet a limited budget and provide, at the same time, adequate facilities and a system of construction to conform to the regulations of the New York State Department of Education, with respect to light, air, fire safety, minimum maintenance costs. Aside from the practical considerations, the use of glass blocks produced a pleasing architectural feature." Architects: Benedict, Ryan and Sayer, Plattsburg, N. Y.; General Contractor: John J. Fitzpatrick's Sons, Plattsburg, N. Y.

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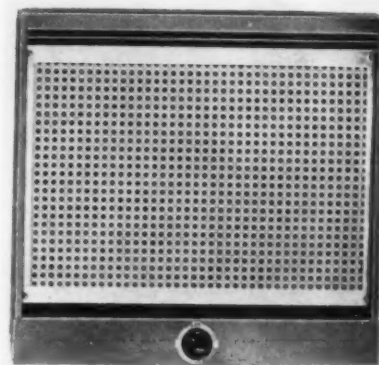
PRODUCTS

(Continued from page 234)

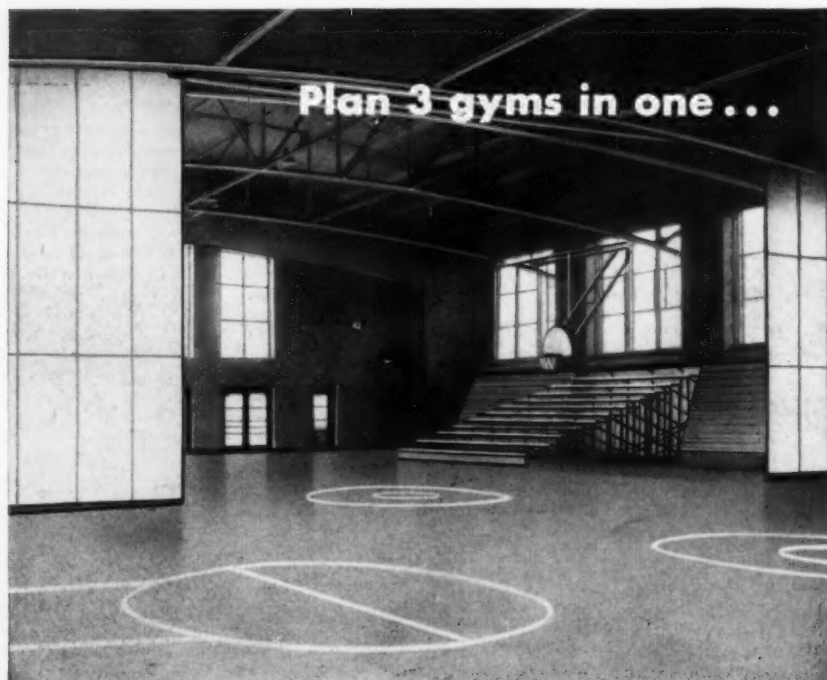
ture, resistant to most alkalies and acids, completely mothproof, resistant to mildew and fungi attacks, non-flammable, and possessing excellent tensile strength and high color stability. May be used singly or blended with other fibers. The Saran Yarns Co., Odenton, Md.

Ceramic Radiant Heater

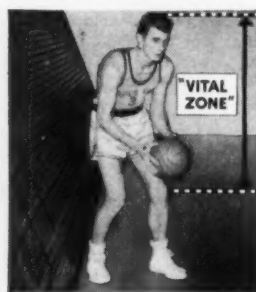
A new development for home and industrial heating, the *Heatmore* Ceramic radiant heater is reported to eliminate the hazards of fires and burns, and to provide clean, healthful heat. Tests by Underwriters' Laboratories are cited as having demonstrated that accidental contact with the heater will not cause burns. Another UL experiment in which a sheet of cheesecloth was placed in direct contact with the heater for several hours, is said to have shown not even a slight tendency toward combustion. A



Ceramic heater prevents accidental burns, eliminates fire hazards



with **HORN** folding gymseats and partitions



FOR SAFETY, Horn gymseats provide a smooth, sloping surface when folded . . . real protection for the vital zone!

■ With the gymseats folded and the partition closed, your gym is actually two separate units. With seats extended and the electrically operated partition recessed in the walls, it's an exhibition gym that pays its own way.

For planning that gives you three gyms in one, plan with Horn. Horn equipment gives you the design you need for efficient use of space, and the quality of construction you need for years of trouble-free service. Horn representatives in your area will help you plan your three gyms in one . . . Horn factory crews will supervise your installation.

Write today for details on Horn folding gymseats and folding partitions . . . and the new Horn wardrobes and folding stages!

HORN BROTHERS

SCHOOL EQUIPMENT

THE BRUNSWICK-BALKE-COLLENDER COMPANY

DIVISION OF

FORT DODGE, IOWA

third test reportedly demonstrated the ceramic panel to be fully shatterproof, even under extreme tension.

The heating element in the unit is a high-resistant wire which is imbedded in the ceramic panel. The higher resistance is said to result in long infra-red wave lengths which extend uniformly in all directions, use up none of the room's oxygen and provide efficient heat. The heaters are available in portable units and in easily-installed wall panels with built-in thermostat and pilot light. Heatmore, Inc., Dept. AR, 738 Broadway, New York, N. Y.

Submersible Sewage Ejector

Described as an entirely new principle in sewage ejection, the *Weil Submersible Screenless Sewage Ejector* has a pump and motor designed to operate under water without being damaged by moisture. Operation is also reportedly not affected by dirt or foreign matter. The unit's small size is said to suit it for installations where space is very limited, and its waterproof character enables it to be installed in underground vaults outside of buildings. Since the unit is controlled by electrode, with no moving parts, installations completely below floor level are made possible, with only discharge pipe and electric cable extending above the floor. The ejector has been designed to pump all kinds of sewage including rags and stringy material. It has a newly designed impeller and is described as being sturdily built. Three and 4-in. discharge sizes are available with 1750 rpm motors from 1 to 3 hp. The units carry a five-year guarantee. Weil Pump Co., 1530 N. Fremont St., Chicago 22, Ill.

(Continued on page 242)



Extra protection. Autopositive reproductions are used in place of those drawings which would otherwise be exposed to constant wear and tear. These intermediates—with dense photographic black lines on a durable, white paper base—produce sharp blueprints whenever needed.

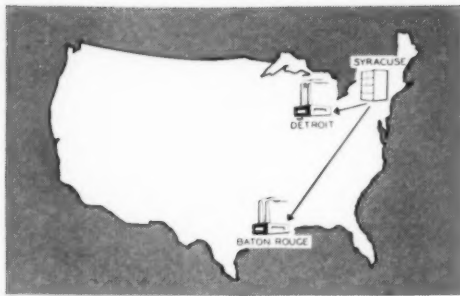


Photo-lasting files. The apparatus and other engineering drawings for Solvay's alkali plants in Syracuse, Detroit, and Baton Rouge—are prepared by the home-office staff in Syracuse, N. Y. Then Autopositive intermediates, which have the lasting qualities of photographs, are made for future reference and print-making requirements.



The Solvay Process Division, Allied Chemical & Dye Corp., reports

New speed and versatility in drawing reproduction ... with Kodagraph Autopositive Paper

Drawing duplication simplified . . . print deliveries speeded . . . new reproduction services provided—these are some of the advantages Solvay Process is realizing with Kodagraph Autopositive Paper.

This new photographic intermediate material reproduces all types of drawings and documents *directly*. In addition, Autopositive increases the utility of existing print-making equipment . . . brings the "plus" features offered by photography alone to many jobs. See how it works for Solvay . . . *see how it can work for you!*



Costly redrafting eliminated. Old, soiled drawings are reproduced on Kodagraph Autopositive Paper, which intensifies line detail, cleans up backgrounds . . . producing "new-quality" print-making masters *without costly redrafting*.

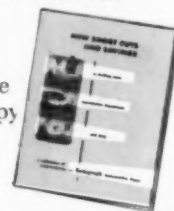


Contracts expedited. Autopositive intermediates are sent to outside bidders on plant construction projects so that the required number of blueprints needed for quotations can be made. This saves time previously lost when insufficient quantities of prints were supplied.



Plant reports prepared quickly. Autopositive intermediates are used as "masters" from which the required number of direct-process prints are made. These intermediates can easily be revised—deletions made and new detail added—by hand or typewriter—so that the basic form can be used over and over.

Get complete details on Kodagraph Autopositive Paper. Write for a free copy of "New Short Cuts and Savings."



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"THE BIG NEW PLUS"
in engineering drawing
reproduction

MAIL COUPON FOR FREE BOOKLET

Eastman Kodak Company, Industrial Photographic Division, Rochester 4, N. Y. ⁹⁵

Gentlemen: Please send me a free copy of your new illustrated booklet, "New Short Cuts and Savings."

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Company _____

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City _____ Zone _____ State _____

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PRODUCTS

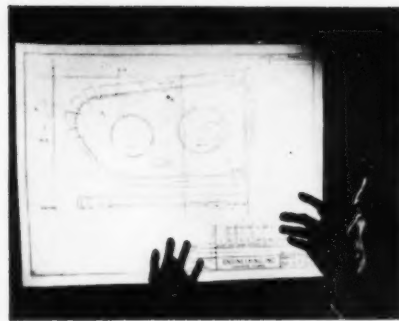
(Continued from page 28)

Plastic Sheet for Engineering Drawings

Dinoglass, made of translucent Vinylite plastic rigid sheet, is a new type of drawing material reported to facilitate the making and reproduction of engineering drawings. The sheet is said to have great dimensional stability and will



Translucent plastic rigid sheet permits clear reproduction of engineering drawings, resists wrinkling and cracking, can be rolled up or will lie flat



That modern touch RESOLITE

Shade from the sun, but with bright daylight inside—that's why Resolite translucent structural panels are bringing the modern home closer to the outdoors. Resolite is better for skylighting because it filters out much of the heat, gives a soft, restful daylighted interior, as in this weather-tight, Resolite-roofed patio of a Florida residence.



Resolite is a rugged structural sheet of Fiberglass-reinforced resin plastic, flat or corrugated for added structural strength. The material is unaffected by weather extremes of heat, cold or moisture. It will not rust, oxidize, mildew or rot. It is simple to apply with screws or nails and with ordinary tools and skill; it is easily adapted to roof, wall or partition.

A wide variety of color and corrugation patterns lends Resolite easily to endless possibilities in interior or exterior decoration.



Beautifying the interior or exterior by either reflected or transmitted light, Resolite panels are ideal for decorative and utility partitions, with a selection of color for any motif. The effect of length and height is enhanced by utilizing the corrugation patterns.

For complete information, and name of nearest distributor, write Dept. A-4

RESOLITE Corporation
ZELIENOPLE, PA.

not shrink or stretch. It is also described as being resistant to moisture, oil and grease, alcohol and most chemicals. The sheet will lie flat or can be rolled up, and it resists wrinkling, cracking, fraying and aging, according to the manufacturer. Finger marks and smudges can be wiped off with a damp cloth and erasures are reportedly easy to make. Border, title and information box are printed in reverse on the back of the sheet, together with grid lines. These will reproduce clearly along with the drawing, but do not hamper the draftsman in any way. After copies have been made, the entire drawing may be removed from a sheet, which can then be re-used. Di-Noc Co., 1700 London Rd., Cleveland 12, Ohio.

Custom-Built Kitchen Equipment

St. Charles Kitchen Cabinets are currently being produced in steel with natural wood front exteriors. Designed to blend harmoniously with contemporary decor, the cabinets are available with interiors in any of a variety of colors. Wood used is of select white birch, treated and finished in a soft brown, natural tone. Units may be arranged in a number of ways to fit various shaped kitchens. St. Charles Mfg. Co., St. Charles, Ill.

Refrigerator-Range Combination

Described as particularly adaptable to home bar, office and apartment use, the *General Chef* range-refrigerator combination has a one piece porcelain top and measures 36 in. high. Units are available with three gas burners, three electric burners for 220-v operation and two electric burners for 110-v use. A convenient drip tray is placed beneath the burners to facilitate cleaning. The

(Continued on page 216)

READ WHAT A CONSTRUCTION COMPANY SAYS ABOUT Q-FLOORS



CAPITOL BUILDING ANNEX
FRANKFORT, KY.

Meriwether, Marye & Assoc., Architects

H. H. NICOL, PRESIDENT

F. F. SCHOETTLER, VICE PRES.
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STRUCK CONSTRUCTION COMPANY INCORPORATED BUILDING CONSTRUCTION

147 N. CLAY STREET

P. O. BOX 1109

LOUISVILLE 2, KY.

July 11, 1952

SUBJECT-

Q-Floor
Capitol Annex
Frankfort, Kentucky

H. H. Robertson Company
Pittsburgh, Pennsylvania

Gentlemen:

I would like to outline our experience with Robertson Q-Floor on the Capitol Annex job at Frankfort, Kentucky.

The erection of Robertson Q-Floor was started November, 1950. In spite of an unexpected severe winter comparable to weather along the Great Lakes, work proceeded with little interruption.

As fast as Q-Floor was laid, we stacked it with stone and masonry materials.

If we had not been able to accept this material, especially the stone, two large limestone mills would have had to cut production. For at least two months, heavy snow stopped deliveries on other orders from these same mills. Without this storage, we could not have accumulated enough stone to keep going when the weather moderated. An eight weeks quarry strike occurred when we had about eighty per cent of limestone on the job. We lost only about a week of setting time because of the stock we had on hand.

This building is radiant heated. The contractor began welding his coils as the outside walls went up. There were about fifteen miles of coils and probably five miles of steam and return piping installed on the Q-Floor. The welding and testing of these coils took about eight months. With certified welders in short supply, any delay would have meant that this job would have been without heat for finishing in the winter of 1951-52. There was no delay.

The concrete fill on Q-Floor was delayed until weather conditions were favorable. It was possible to do an excellent job of finishing without temporary protection and heating expense necessary with reinforced concrete. The fill was poured checker-board and a mechanical screed was used for striking off, but few hairline cracks appeared except at control points. We had no trouble from bad bonding and warping as is apt to occur on fill over concrete.

Our experience has convinced us that Robertson Q-Floor offers advantages that should not be overlooked by the designer or the builder.

Sincerely yours,
W. J. Pouchot
W. J. Pouchot, Supt.



CAN YOU AFFORD NOT TO GET ALL DETAILS?

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Offices in ALL Principal Cities in the U.S.A. and Canada

WORLD-WIDE BUILDING SERVICE

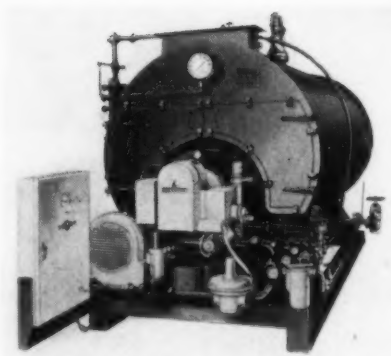
PRODUCTS

(Continued from page 242)

manufacturer cites as an important feature of the new model the fact that it has a capacity for nine ice cube trays or 12 frozen food cartons. All combinations have an inner door shelf, providing additional storage space. General Air Conditioning Corp., 4542 E. Dunham St., Los Angeles 23, Calif.

Boiler-Burner Units

A complete new line of boiler-burner units is being cooperatively marketed by *Iron Fireman* and *Kewanee*. Each unit consists of an Iron Fireman packaged burner and a Kewanee Scotch boiler. The burner is furnished complete with all controls, and the boiler is completely assembled with accessory equipment for oil, oil and gas, or gas firing. The pre-assembled components of the units are shipped separately by each manufacturer to the job site, where they can be quickly connected. The boiler-



Boiler-burner unit is furnished with all controls and accessory equipment



Photograph taken in 1934 during the original program of research by the U. S. Forest Products Laboratory, Madison. Glued, laminated arch frames built of "stress-graded" southern yellow pine by Unit Structures, Inc. were tested to destruction and furnished the basic data for acceptance of laminated, glued wood structural units by the construction industry.



FIRST of Its Kind and still first in economical construction UNIT All-glued Laminated Arches

To the design engineer, the decisive advantage of the laminated arch is measured in dollars and cents — low initial cost, low installation cost, no decorating expense, and the very minimum of maintenance.

These savings, plus increased freedom in building design, are identified with all types of Unit laminated structures. They are a matter of record in hundreds of buildings from coast to coast.

The foundation for this most economical method of roof construction was laid back in 1934 when Unit Structures produced the first all-glued, laminated arches accepted for the building industry by the U. S. Forest Products Laboratory. This pioneer leadership in experience and manufacturing facilities is yours to draw on and work with. See SWEET'S catalog for basic arch information; and write, without obligation, for detailed technical information on any specific problem.



UNIT STRUCTURES, INC.

500 Peck Avenue

Peshtigo, Wisconsin

burners are available for high pressure steam and water in sizes ranging from 52 to 304 hp, 125 and 150 lb working pressure. They are also available for low pressure — 15 lb steam or 30 lb water — in sizes from 1,808,000 btu to 8,400,000 btu. They may be fired with No. 6 or lighter fuel oils, with gas — either high pressure or with pressure as low as 2 oz — or with a combination of both fuels. The units are designed for forced draft operation which eliminates the need for a high stack. The complete line is described as covering a wide variety of commercial and industrial applications for heating, power and process steam. Iron Fireman Co., Cleveland 11, Ohio, and Kewanee-Ross Corp., Kewanee, Ill.

Indirect Lighting Fixture

The P1273 is a new luminous indirect luminaire which has been specifically designed to produce a uniform, wide-spread illumination with a minimum contrast between the ceiling and the fixture. A unit of exceptionally even brightness is said to result from the combination of a three-lamp configuration with lateral metal upper reflectors and extruded plastic diffusing reflecting panels. Light distribution is 74.5 per cent upward and 25.5 per cent downward. The curved plastic panels are rigidly supported in full length metal rails and are easily snapped in or out of fixture when required. The fixture measures 3½ in. at the plastic sections and is 5⅞ in. deep overall. It is particularly suitable for office, reception and other work areas. The light is pendant mounted only, and is available in 40-w fluorescent and 48-in. and 96-in. slimline, 200 or 430 milliamps. Sunbeam Lighting Co., 777 E. 14th Pl., Los Angeles 21, Calif.

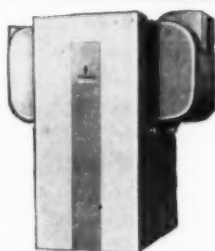
(Continued on page 250)



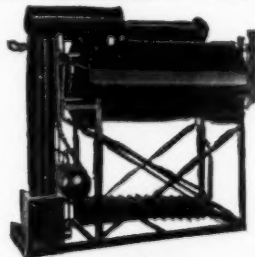
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and specified Servel
Air Conditioning
equipment!"*

Make Your Own Point-for-Point Test And Discover Servel's Amazing Extras!

| No other installation offers all these amazing features | SERVEL | OTHER |
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| No Compressor —no vibration, quiet, no moving parts to wear. | ✓ | |
| Light Floor Loading —no need for special foundation or floor braces. | ✓ | |



All-Year
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| Lighter per Ton of Capacity —can even be installed on the roof. | ✓ | |

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Servel, Inc., Dept. AR-11, Evansville 20, Indiana

Gentlemen:

I'm interested in the dependability and low operating cost of Servel Air Conditioning. Send me full details on

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☐ Commercial Units

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SPECIFY NELWELD FOR:

INDUSTRIAL ROOFING AND SIDING

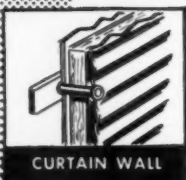
Corrugated Steel,
Aluminum, Asbestos—
Curtain Walls



ROOFING & SIDING

INSULATION MATERIALS

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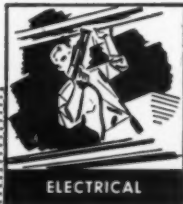
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END-WELDS FASTENER STUDS TO
STEEL IN A SPLIT SECOND...AN
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FAST, EASY INSTALLATION
PERMANENT FASTENING
BETTER FINISHED APPEARANCE
LOW MAINTENANCE COSTS



INSULATIONS



ELECTRICAL

Nelson Construction fasteners are distributed by United States Steel Supply, Reynolds Metals Co., Aluminum Company of America, Johns-Manville, Philip Carey Mfg. Co., Armstrong Cork Co., Southern States Iron Roofing Co.



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DIVISION OF GREGORY INDUSTRIES, INC., LORAIN, OHIO

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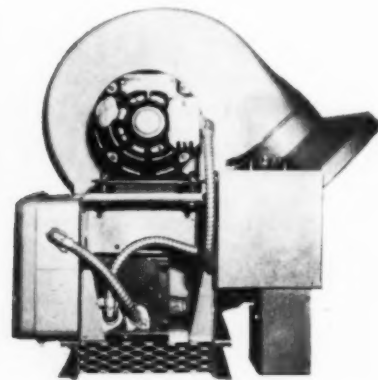
Architectural Engineering

PRODUCTS

(Continued from page 246)

Forced-Air Electric Heater

Described as a complete heating plant in a small package about 2 ft sq and weighing about 100 lb, a Kilbury forced air 440 v electric heater is designed primarily for industrial use. Rated at 13.1 kw, it is said to develop a heat output of 45,000 btu and is suitable for heating small shops, for portable spot heat, or for processing applications. In



Packaged forced-air electric heater has automatic temperature controls

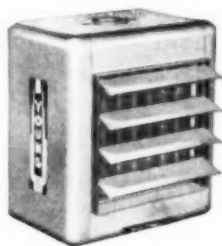
combinations of multiple units it can reportedly be used for zone, perimeter, loading dock, auxiliary or supplemental heating of large plants. The heater is equipped with automatic temperature controls, built-in safety switches and fuses and requires only a suitable power supply for operation. It can be installed on incombustible, fire-resistant flooring or may be suspended. Angle iron brackets are used for wall mounting. The heater may be used with or without ducts. Feature of the unit is a centrifugal blower reported to direct heat to floor level from a height of 7 to 8 ft. Kilbury Mfg. Co., Lawndale, Calif.

Flexible Window Unit

A new four-in-one window called *Flerivent* is reported to be particularly suited to industrial, educational or commercial use, although equally attractive in the home. The unit may be installed as out-

(Continued on page 254)

If You Specify Unit Heaters You'll Want These Features



Horizontal Type Unit Heaters are available in 14 sizes . . . for hot water or steam systems up to 150 lbs. pressure.

Large tubes rolled into headers and reinforced by ferrules.

Header tapped for suspending Unit Heater independently of piping.

Full size supply, return tapings.

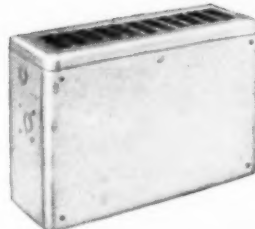
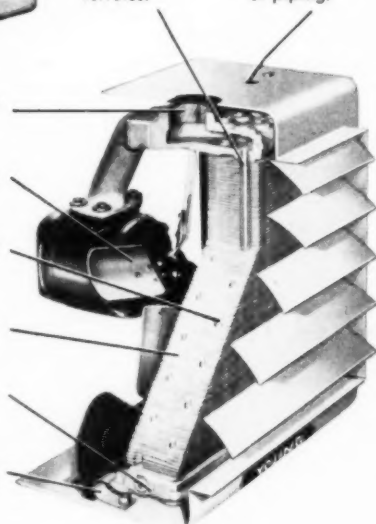
Fan delivers maximum air, runs quietly.

Fins are mechanically bonded to tubes.

Non-ferrous, tube-and-fin type heating element.

One-piece, cast iron, close-grain headers.

Spring mounted for expansion and contraction of heating unit.



Cabinet Unit Heaters, available in three basic styles for steam or hot water systems, are used in auditoriums, lobbies, recreation halls, etc.

Non-ferrous, tube-and-fin heating element.



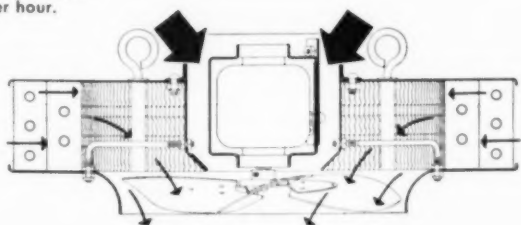
Knockouts simplify piping and pitching in horizontal or vertical installations.

Removable blower assembly unit . . . resiliently mounted quiet motor.

Core can be pitched either direction and air vented . . . for hot water systems.

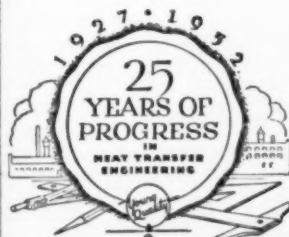


"Vertiflow" Unit Heaters for vertical air discharge in capacities from 52,600 to 552,000 Btu per hour.



"Vertiflow" Unit Heaters, designed to deliver an abundance of heat from unusually high ceilings, have circular, non-ferrous heating element and patented motor ventilation feature which prevents motor "baking." When fan is in operation, cooler room air is drawn downward through ventilating stack around motor (see large arrows in cut-away view), keeping it cool. When motor is off, radiant heat from core rises, and draws cooler room air through ventilating stack in reverse direction. Diffusers are available.

● Young Unit Heaters—Horizontal, Vertical and Cabinet types—provide an abundance of heat where you want it, when you want it. They are designed for use with steam or hot water systems, and are available in many models covering a wide range of heating capacities. The types shown above incorporate design features that have been proven through a quarter century of satisfactory performance and customer acceptance. They are engineered for specialized as well as routine applications to meet all large capacity heating requirements. For further details write for illustrated catalogs Nos. 2548, 2648, 6548.



YOUNG

Heating, Cooling, Air Conditioning Products for Home and Industry.

Heat Transfer Products for Automotive and Industrial Applications.

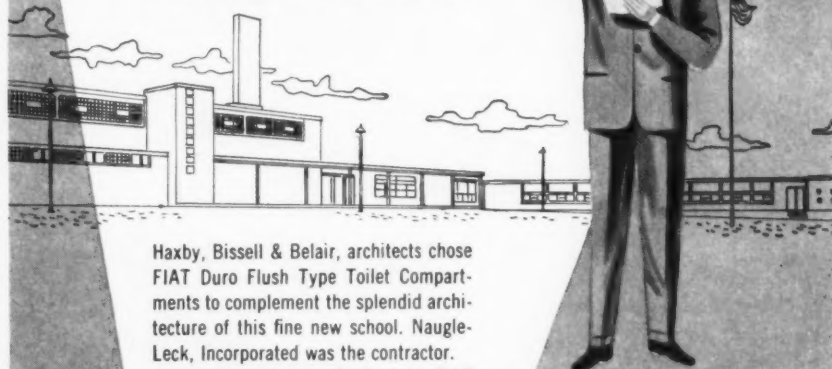
YOUNG RADIATOR COMPANY

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it's **FIAT** again!

RUGGED TOILET COMPARTMENTS SPECIFIED FOR

**NEW HOPKINS ELEMENTARY
SCHOOL, HOPKINS, MINN.**



Haxby, Bissell & Belair, architects chose FIAT Duro Flush Type Toilet Compartments to complement the splendid architecture of this fine new school. Naugle-Leck, Incorporated was the contractor.

Compartments are finished in FIAT baked enamel rose stone color to harmonize with the rose-colored tile and light green plaster walls. Floor is green, rose and beige tile.

MADE BY

FIAT

FIRST IN
SHOWERS



**WHEN YOU SPECIFY FIAT
... YOU SPECIFY QUALITY**

**TOILET
COMPARTMENTS
DRESSING
COMPARTMENTS
HOSPITAL
CUBICLES
PRESWOOD
COMPARTMENTS***

*Being used extensively for Army and Navy installations. Catalog on request.

SEE SWEET'S 22b
FI
ARCHITECTURAL

... for detailed compartment information and the address of your nearest FIAT representative.

FIAT METAL MANUFACTURING COMPANY
THREE COMPLETE PLANTS—ECONOMY • CONVENIENCE • SERVICE

FIAT

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New York

Franklin Park, Ill.
(Chicago Suburb)

Los Angeles 63
California

In Canada: FIAT COMPARTMENTS are made by Porcelain and Metal Products, Ltd.,
Orillia, Ontario

These sturdy compartments will withstand the rough usage of school children for years. Panels, pilasters and doors are made of two sheets of #20 gauge stretcher leveled steel, with fiber board sound deadener core cemented uniformly to the metal, and interlocked under tension the entire length of the edges. Pilasters are securely anchored to the floor with an adjustable floor saddle and locking bolt. Durable hardware is chrome plated. Bases of pilasters and floor connections are concealed by 3" high brass chrome plated plinths.

Unique low doors were chosen to facilitate supervision of elementary school children.

Architectural Engineering

PRODUCTS

(Continued from page 250)

swinging awning ventilation, inswinging hopper ventilation, outswinging casement ventilation or fixed sash. Effective weatherstripping and leak-proof design are claimed to assure a high degree of weathertightness. Double glazing and hinged screen are optional, and a choice of wood frame screens with aluminum wire cloth or all aluminum screens is offered. There are nine sizes available in combinations of three different sash widths and four sash heights. Glass sizes range from 27 by 10 in. to 44 $\frac{3}{4}$ by 22 in. Use as a basement utility unit for above-ground, clerestory windows, transoms, entryways and kitchens are but a few of the many applications possible. Andersen Corp., Bayport, Minn.

Aluminum Storm Sash

Offering protection for casement windows, this storm sash consists of a frame and the sash, itself, and "rides" along with the casement as it swings in or out. The frame is permanently attached with a weather-tight sealing strip, and a



Storm sash for casement windows is permanently attached with sealing strip

double glass barrier is formed by the sash and the casement, which reportedly cuts down heat loss during the winter and keeps the house cooler during the summer.

The unit, which is custom-fitted to the home, is constructed of extruded

(Continued on page 261)



To keep things **QUIET** Simpson Acoustical Contractors Offer a Complete Service. Call nearest one:

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Badham Insulation Co., Birmingham
Stokes Interiors, Inc., Mobile

ARIZONA
Asbestos Engineering & Supply Co., Phoenix

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Cramer Company, San Francisco and Fresno

COLORADO
Construction Specialties Co., Denver

CONNECTICUT
W. T. Roberts Construction Co., Hartford

DISTRICT OF COLUMBIA
Kane Acoustical Co., Washington

GEORGIA
Dumas and Searl, Inc., Atlanta

ILLINOIS
General Acoustics Co., Chicago
Melvin R. Murdy, Moline

INDIANA
The Baldus Co., Fort Wayne
E. F. Marburger and Son, Inc., Indianapolis

IOWA
Kelley Asbestos Products Co., Sioux City and Des Moines

KANSAS
Kelley Asbestos Products Co., Wichita

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Hamilton Company, Inc., St. Louis

NEBRASKA
Kelley Asbestos Products Co., Omaha

NEW JERSEY
Kane Acoustical Co., Fairview

NEW MEXICO
Asbestos Engineering and Supply Co., Albuquerque

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Kane Acoustical Co., New York
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Best Building Equipment Co., Charlotte

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R. L. Ehlstrom Co., Salem

PENNSYLVANIA
Jones Sound Conditioning, Inc., Ardmore

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John Beretta Tile Co., Inc., Knoxville
John A. Denie's Sons Co., Memphis
The Workman Co., Inc., Nashville

TEXAS
Blue Diamond Company, Dallas
Otis Massey Co., Ltd., Houston
Builder's Service Co., Fort Worth

UTAH
Utah Pioneer Corporation, Salt Lake City

VIRGINIA
Manson-Smith Co., Inc., Richmond

WASHINGTON
Elliott Bay Lumber Co., Seattle

WISCONSIN
Building Service, Inc., Milwaukee and Green Bay

CANADA
Albion Lumber & Millwork Co., Ltd., Vancouver, B. C.
Hancock Lumber Limited, Edmonton, Alberta

Architectural Engineering

PRODUCTS

(Continued from page 254)

aluminum. The sash can be slipped out of the frame for washing, and installation is described as being quick and easy. The Alumatic Corporation of America, 2081 South 56th St., Milwaukee 14, Wis.

Industrial Unbreakable Mirrors

Recently developed for industrial application, *Mirrored Homalite CR-39* is a clear thermosetting plastic material particularly adaptable to installations where breakage is an important factor. Light in weight, this product may be obtained in thicknesses of $\frac{1}{16}$, $\frac{3}{32}$, $\frac{1}{8}$, $\frac{3}{16}$, $\frac{1}{4}$ and $\frac{1}{2}$ -in. in sizes up to 28 by 50 in. It may be accurately machined to meet customers' specifications either before or after it has been mirrored. Information, literature and samples are available from Flexmir Metallizing Co., Inc., 20 Broome St., Newark 3, N. J.

Clear Homalite is available in the same thicknesses and in sizes up to 48 by 60 in. Information on clear Homalite may be obtained from The Homalite Corp., 13 Brookside Dr., Wilmington, Del.

Portable Electric Humidifying Unit

Designed to control humidity in homes, stores or commercial structures, the *Halsey Taylor Air-O-Dryer* is a new portable unit which reportedly can accommodate any space up to 8000 cu ft. The unit features a $\frac{1}{8}$ hp hermetically sealed compressor-motor assembly, permanently oiled for quiet operation. Both compressor and fan motors are controlled by a single toggle switch. The fan motor, 1/100 hp, is also permanently oiled. A special evaporator has a spirally wound coil said to provide maximum efficiency. The unit is furnished in a cabinet of bonderized, heavy gage steel with two coats of moisture-resistant lacquer. Special glides with rubber mountings are provided to prevent damage to floors. Dimensions of the unit are: height, 21 $\frac{5}{8}$ in. (clearance height 23 in.); length, 17 in.; width, 12 $\frac{1}{4}$ in. Net weight of the humidifier is 60 lb. Halsey W. Taylor Co., Warren, Ohio.

(Continued on page 264)

BE SURE OF **POWER** NO MATTER WHAT!



Heavy snow, ice and other severe weather conditions are often the cause of sudden power failures. Many hours are sometimes required to repair the damage to power lines.

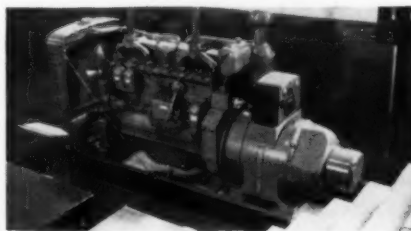
No important institution or place of business can afford to be without electrical current for any period of time—it can be disastrous.

There is one sure way to be fully prepared against such an emergency and that is to install Ready-Power stand-by equipment.

By so doing you are always assured of continued electrical power no matter what may happen.

Ready-Power stand-by units operate on gasoline, natural gas, butane, propane or diesel fuel.

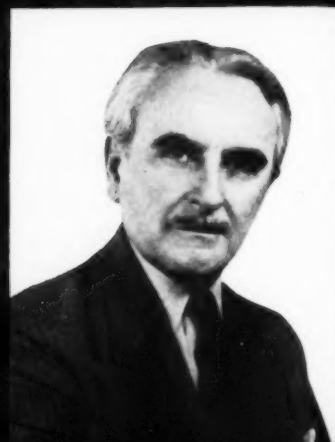
BE READY WITH **READY-POWER** STAND-BY EQUIPMENT



For complete information please write to

THE READY-POWER CO.
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Rich

*Kester Avenue
Elementary School
Los Angeles*

*Richard J. Neutra,
Architect*

Photo by Julius Shulman

Richard J. Neutra,

Architect
of

Kester Avenue Elementary School

Los Angeles

*tells how catalogs in Sweet's File
help both architect and manufacturer*

"I have written and talked about Sweet's the world around and do believe it is a great American accomplishment, recognized in all places where the technology of an industrialized civilization has penetrated.

"Sweet's contribution to the field of industrial product information can be measured in terms of its pioneering in the development of improved catalog design principles.

"By applying these principles to their catalogs, manufacturers have reduced the confusion arising from competitive claims and have enabled the architect to familiarize himself quickly with the merits of available products and to select those which fit his particular needs. In this way, consumer satisfaction should be started at the very moment of first acquaintance."



Sweet's Catalog Service

DIVISION OF F. W. DODGE CORPORATION

119 WEST 40TH STREET, NEW YORK 18, N. Y.

PRODUCTS

(Continued from page 261)

Patterned Glass Door For Interior Installations

The *Securit* glass door, for interior use only, is furnished as a complete, ready to hang unit with bronze-finished hardware, including a standard Sargent lock and special Stanley ball-bearing hinges for finger-tip operation. Each door is a single slab of $\frac{3}{8}$ in. Muralex



Interior glass door is packaged as a complete, ready-to-hang unit

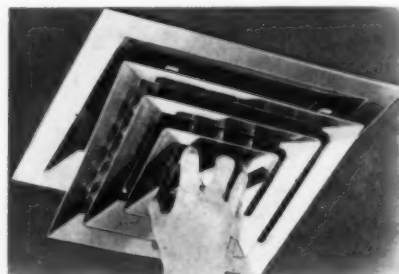
glass, patterned on both sides and heat-treated to a strength said to be three to five times as strong as ordinary glass of the same thickness. Since the pattern is on both sides, the door may be hung for either left or right-hand opening.

The door is furnished in four standard sizes and four additional sizes, to fit a wide range of commercial frames. The additional sizes provide clearances of $\frac{5}{32}$ in. on each side, $\frac{3}{16}$ in. at top and $\frac{3}{4}$ in. at the bottom. Full instructions and working drawings are included with each door. Manufactured by Blue Ridge Glass Co., Kingsport, Tenn., Distributed by Libbey-Owens-Ford Glass Co., Toledo, Ohio.

Easily Installed Air Diffusers

Three new models of *Agilair* square and rectangular air diffusers now available are reported to feature exclusive built-in diffusing vanes and a new mounting frame with removable diffuser core for quick, easy installation.

Simplicity of the new installation method is said to eliminate time con-



New model air diffuser has built-in diffusing vanes, removable core

suming on-the-job operations. Only two steps are required, fastening the mounting frame to the duct collar and fitting the diffuser core into the frame, where it is held by a new mounting frame lock. When it becomes necessary or desirable to change the diffuser pattern or to adjust air velocities, the diffuser core may be removed simply by releasing the lock. All the models in the series are available in a wide range of sizes with vanes and louvers assembled in a variety of patterns so that air can be circulated in any direction singly, in combinations, or in all four together. Air Devices Inc., 17 E. 42nd St., New York 17, N. Y.

(Continued on page 268)

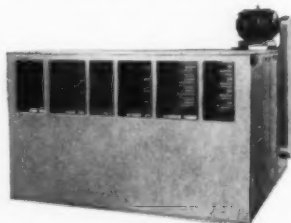
Marlo MULTI-ZONE UNITS in Michigan Bell's New Annex...For Comfort and Equipment Protection.



Architects and Engineers: Smith-Hinchman & Grylls, Inc.
General Contractor: Bryant & DeWilder Co.
Mechanical Contractor: Harrigan & Reid Co.

EIGHTEEN modern Marlo Multi-Zone Air Conditioning Units have been selected to perform a two-fold job in the beautiful new annex of the Michigan Bell Telephone Company in Detroit.

- Protect vital equipment . . . by maintaining perfect climate conditions all year — to exacting requirements. Marlo units do this perfectly by control of heating, cooling, humidifying, dehumidifying and circulation of air.
- Employee comfort is assured for top year 'round working efficiency.



Marlo Multi-Zone Units solve varied air conditioning problems . . . offer the added advantages of separate zone functions. (One zone can cool while another heats—simultaneously!)

MARLO EQUIPMENT BELONGS IN YOUR BUILDINGS TOO! WRITE FOR INFORMATION.

Marlo
COIL COMPANY

Manufacturers of COOLING TOWERS • EVAPORATIVE CONDENSERS • INDUSTRIAL COOLERS • AIR CONDITIONING UNITS • MULTI-ZONE UNITS • BLAST HEATING & COOLING COILS
Saint Louis 10, Missouri

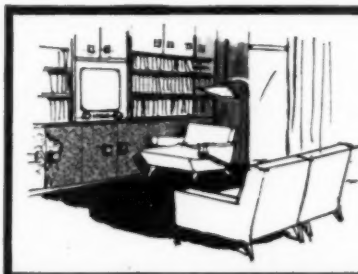
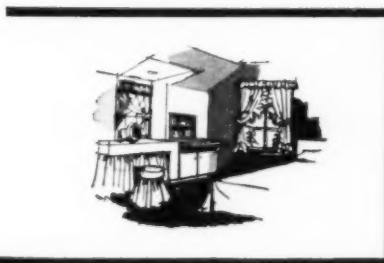
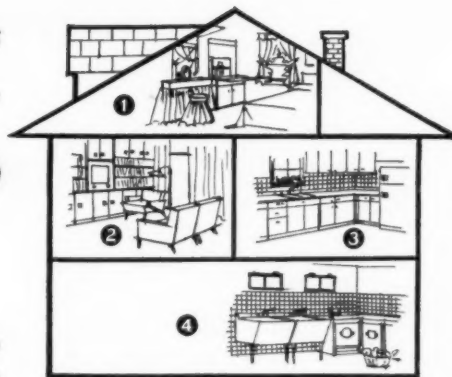
*Upstairs, Downstairs
and on the first floor, too...*

MASONITE PRESDWOOD Does a lot of jobs... better!

There isn't a room in any of the houses you build (or remodel) that won't be a better room for having Masonite Presdwood® in it.

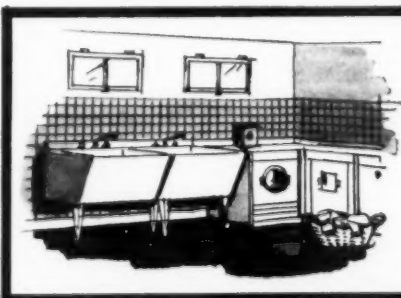
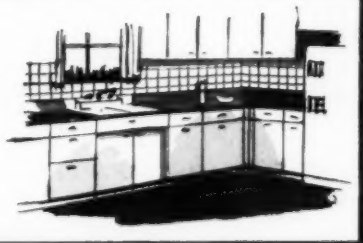
There's a correct type and correct thickness (23 in all) for each job. For example:

- ① Standard Presdwood or Panelwood for bedrooms, dining rooms, living rooms ... where you need large, smooth panels for walls and ceilings.



- ② Leatherwood (with its rich-looking surface that simulates Spanish-grain leather) for dens, playrooms, wainscots, other places where you want a special effect.

- ③ Tempered Presdwood (or Tempered Duolux—smooth both sides) for partitions, cabinets, built-ins ... work surfaces ... any place subject to hard usage or to extremes in humidity.



- ④ Temprtile® (large panels scored in 4" tile-like pattern) for utility rooms, bathrooms, kitchens. Score lines often finished in contrasting colors.

Practical? Any carpenter will tell you how readily these all-wood hardboard panels work up. Any painter will tell you how handsomely they take paint or enamel. Why, you can even bend Masonite Presdwood to form sweeping (and intriguing) curves.

There's a lot more to the Presdwood story. Let us send you more suggestions and complete specifications.



MASONITE® CORPORATION

Dept. AR-11, Box 777, Chicago 90, Illinois

Tell us more about the advantages and techniques of using Masonite Presdwood in construction.

Name.....

Address.....

City and Zone.....State.....

"Masonite" signifies that Masonite Corporation is the source of the product

BETTER HARDBOARDS FOR BETTER BUILDINGS

PRODUCTS

(Continued from page 264)

Twin Plastic Wall Tile Line

Ridgetile and Ridgewall make up this twin line of Polystyrene plastic wall tile.

Ridgetile, a 4 $\frac{1}{4}$ by 4 $\frac{1}{4}$ in. tile, is molded in 23 colors, including marbled colors, and may be installed with or without grouting. Such trim pieces as bull noses and cove bases are also a part



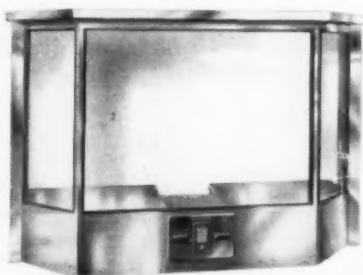
Plastic tile provides scratch-proof wall covering for offices, lobbies

of the line. This product is intended mainly for bathrooms, powder rooms and kitchens.

Ridgewall, which measures 9 by 9 in., is available in eight shades. Recommended for installation in offices, dens, playrooms, lobbies, etc., the tile is reportedly scratch-proof. The back of both types of tile has a herring-bone pattern which is said to double the holding power of the manufacturer's mastic preparation. Ridge Plastics Co., 310 Clark St., Elyria, Ohio.

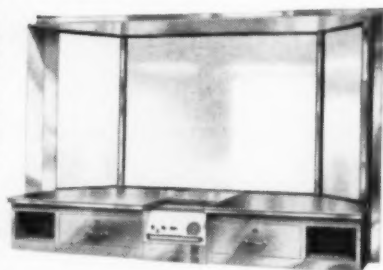
IMPORTANT IMPROVEMENTS IN DRIVE-IN WINDOW DESIGN

Developed by Herring-Hall-Marvin Engineers. Acclaimed by Bankers at the recent American Bankers Association Convention.



Inside view, showing work top with cash drawers and storage spaces.

Outside view with drawer in closed position. Note clear vision afforded to both teller and customer.



Exclusive Type Sliding Drawer Depository—Push-Button Control. The teller presses a button and the depository drawer slides out smoothly, noiselessly. Travel of the drawer is flexible, to make it easily accessible from all types of cars. Another press of the button and the drawer returns to normal position, with its full contents at the teller's fingertips. The automatic operation impresses customers and speeds up transactions. The drawer opening is practically draft-proof.

IMPROVED SOUND SYSTEM

Latest-type two-way communication between teller and customer. The complete speaker unit is built in. The microphone is set into the depository drawer and moves out to the customer. There is no microphone or other electrical equipment to clutter the counter.

Detailed information and specifications on request.

Herring-Hall-Marvin Safe Co.
HAMILTON, OHIO
BUILDERS OF THE U. S. SILVER VAULTS AT WEST POINT



Warm Air Baseboard Heating

Said to be lower in cost than conventional warm air heating systems, Thermo-Base is manufactured in 8-ft., 5-ft and 3-ft units. Reportedly identical in performance with hot water baseboard heating, it uses warm air from a forced air furnace instead of hot water from a boiler. Uniformity in heat distribution is due to the radiant perimeter panel, which is also said to permit easier placement of furniture. Each unit continually replaces heat at the floor level, eliminating cold spots and drafts, and it is equally adaptable to old or new construction installation. An added feature of the unit is that it is suited for cooling as well as heating, and all air, whether hot or cold, is humidified and filtered and in constant circulation. Thermo-Base Div., Gerwin Industries, 211 Spring Street, Michigan City, Ind.

New Hardboard

Allwood Hardboard, a recently introduced structural material, is available in a variety of sizes, thicknesses and in both tempered and standard grades. Used structurally and for decorative purposes, this new material is reported to meet the industry standard for strength, water absorption and swelling, and specific gravity. In tempered form this hardboard can be used for linoleum base with the screened side up for good adhesion, and its many decorative applications include table-tops, cabinet doors, radio and television cabinet backs, and furniture panels. Strong and light in weight, the material can be sawed, routed, nailed, drilled or planed without shredding, chipping or splitting. Oregon Lumber Co., Hardboard Div., Dee, Ore.

NEW-

Economical Solution
to an Old Problem

Keymesh-KORNER

GALVANIZED REINFORCING
for corners and joints
wherever plaster is applied

Pre-formed for Corners . . . while Keymesh-KORNER is purposely supplied pre-formed for corners, it still lies flat when applied on flat surfaces. It forms easily for corners by merely flexing the cut piece. Its convenient width and low cost permit a fast, economical reinforcing job on any location where interior plaster is used . . . and helps prevent future crack troubles.

SAFE HANDLING . . . IMPROVES BOND AND REINFORCEMENT

Keysmesh-KORNER has smooth selvage edges . . . will not injure the hands. It's galvanized against rust, too. And, the open mesh permits the first coat to flow through and around the mesh giving a generous bond of plaster to rock lath, insulation lath, etc., embedding the steel wires . . . thus making a strong, reinforced section where needed . . . with an even base for a firm, smooth, lasting finish!

SIZED RIGHT . . . FOR EVERY PLASTER REINFORCING JOB

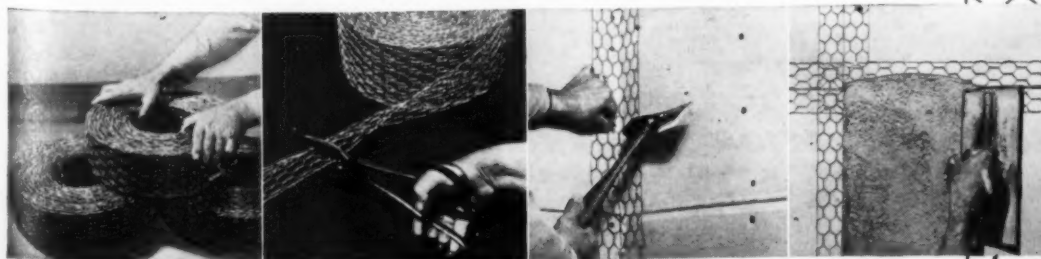
Keysmesh-KORNER is manufactured in 150 foot rolls in several widths. For corners and joints it is made in 4", 5" and 6" widths, 1" mesh, 18 and 20 gauge. For reinforcing above large windows and openings, 12" width with 1" mesh, 20 gauge is recommended. Keymesh is also available in 3 and 4 foot widths for easy over-all lathing reinforcement practice . . . other widths and gauges available.

Write for Prices and Other Information on Keymesh Products

KEYSTONE STEEL & WIRE COMPANY

BUILDING MATERIALS DIVISION • PEORIA 7, ILLINOIS

KEYMESH • KEYMESH-KORNER • TIE WIRE • WELDED FABRIC • NAILS
KEYSTONE NON-CLIMBABLE FENCE • KEYSTONE ORNAMENTAL FENCE



LITERATURE

(Continued from page 206)

Painting Specifications Guide

Sherwin-Williams Painting Specifications and Buyers' Guide. Booklet lists specifications for exterior, interior, floor and trim, metal protective and other finishes. Also lists characteristics, uses and suggested finishes for a variety of architectural materials, with recommen-

dations for surface preparation. Color cards are bound into the booklet. Sherwin-Williams Co., Painter-Maintenance Div., Cleveland 1, Ohio.*

Portable Bleachers

Hussey Safe Seating, Model 6. Brochure describes the manufacturer's portable steel bleachers. Photographs of typical installations and of construction details are included, together with complete specifications and a table of dimensions, weights and capacities. 8 pp., illus. Hussey Mfg. Co., Inc., N. Berwick, Me.

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For expert, "no obligation," planning assistance, you'll find your RCA Sound Distributor is the man to know.

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Radio Corporation of America, Camden, N. J.

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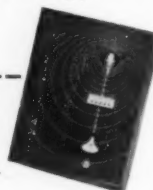
Company _____

Address _____

City _____ Zone _____ State _____



RADIO CORPORATION of AMERICA
SOUND PRODUCTS CAMDEN, N. J.

**Applications For Corrugated Glass**

(1) *Plangineer with Original Corrugated Glass Sidewalls;* (2) *Partitions and Windows of Corrugated Glass Without Wire;* (3) *Highlight Your Plans with Skylights of Original Solid Corrugated Wire Glass.* These three catalogs illustrate specific applications for the manufacturer's corrugated glass, both wired and without wire. Each includes photographs of typical installations and detail drawings in addition to descriptions of the products. The sidewall and skylight brochures also contain tables of standard light coverage. 12 pp., 8 pp., 12 pp., all illus. Pennsylvania Wire Glass Co., 1612 Market St., Philadelphia 3, Pa.*

Scale Templates of Cooking Equipment

Hotpoint Glamour Line Scale Templates. Booklet has looseleaf sheets of scale templates for use when planning a kitchen layout for a commercial or institutional mass-feeding operation. Each template may be traced directly on the layout or cut out and mounted on cardboard for easy handling. They may also be cut out and cemented or thumbtacked in place on the layout. Price for the set of templates is ten cents. Additional copies of individual sheets may be ordered in minimum lots of 100, price fifty cents per 100 sheets. Hotpoint, Inc., Commercial Equipment Dept., 227 S. Seeley Ave., Chicago 12, Ill.

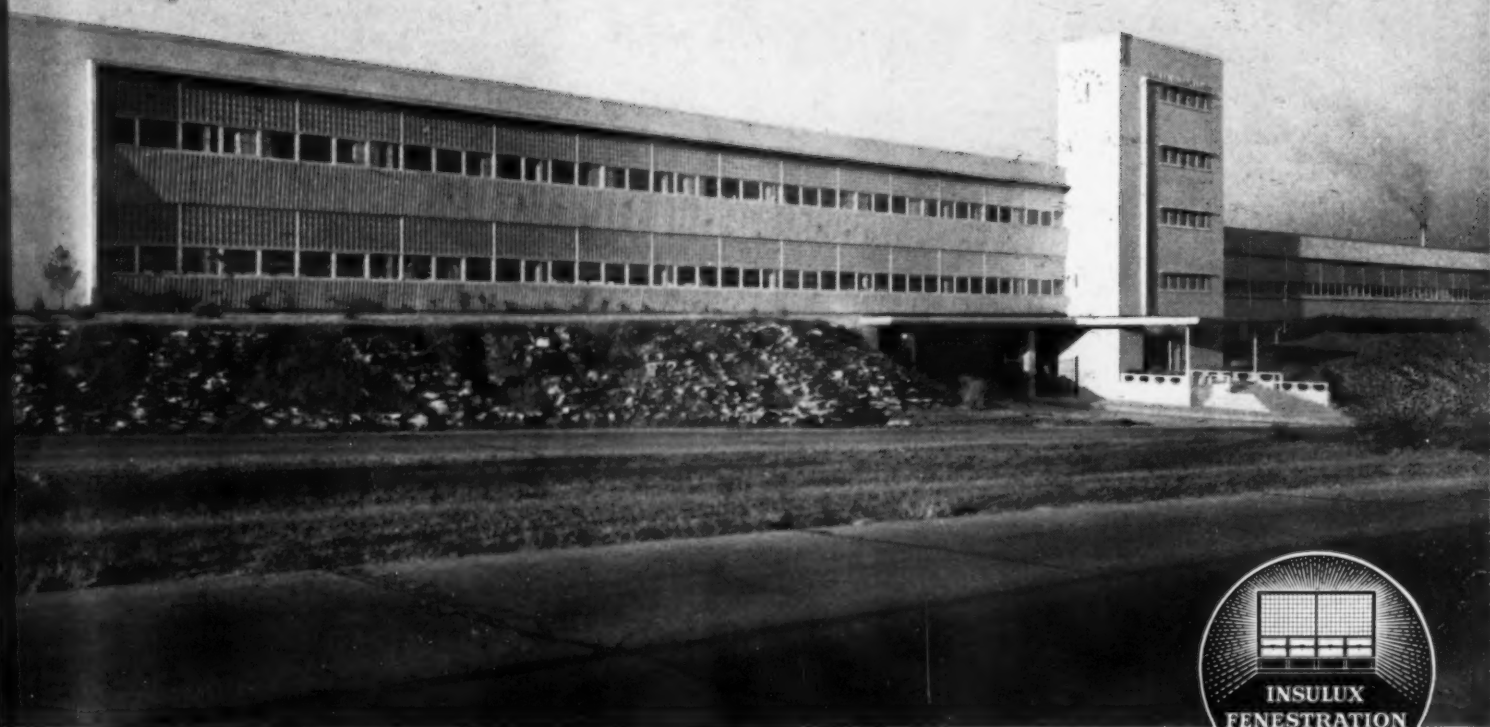
Storage Wall Units

Nora Precision-Built Wall Units. Booklet describes and illustrates the manufacturer's line of wall units which may be used as component parts for storage walls. Among the units depicted are bath storage, desk, vanity, wardrobe, linen cabinet, dresser, bookshelf, storage and hospital wardrobe. Dimensions of various units are listed. 4 pp., illus., Nova Sales Co., Subsidiary Homasote Co., Trenton 3, N. J.*

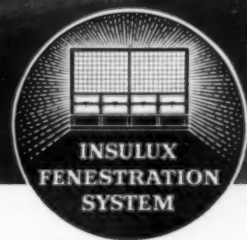
Pine Doors

Ponderosa Pine Decorator Doors. Latest Color Style News. Booklet presents various methods of decorating paneled doors. The use of paint, enamel, wallpaper, appliques, cutouts and stains for decorating is covered. Various types of Ponderosa pine doors for both interiors and exteriors are also pictured. 24 pp., illus. Ponderosa Pine Woodwork, 38 South Dearborn St., Chicago 3, Ill.

(Continued on page 278)

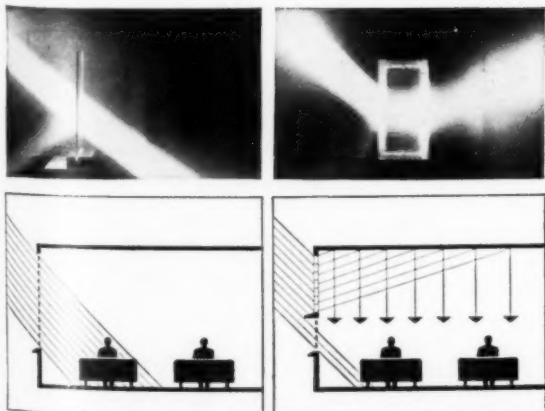


Aladdin Industries, Nashville, Tenn.
Architect: Spencer J. Warwick



Daylight Engineering MASTERS

PROBLEMS OF DAYLIGHT CONTROL



Photograph and illustration to the left, above, show what happens when light beams strike an ordinary window. Notice how workers near windows suffer from high contrast while others have inadequate light. To the right, notice how the built-in prisms in Insulux Light-Directing Glass Block throw light up, and direct down to task. Result is even, diffused light over all parts of the room.

IN MODERN ENGINEERING, plant lighting—particularly daylighting—is often considered to be almost as important as machinery and methods. Daylight Engineers have found that correct daylighting not only increases employee efficiency and cuts accidents, but reduces overall lighting costs.

One of the widely used ways to make maximum use of daylight is with an Insulux Fenestration System with Insulux Light-Directing Glass Block. The ribs in this block pick up light from angles formerly considered unusable. During all parts of the day, the prisms

within the block direct daylight up to ceilings from where it is directed down to working surfaces. Light is uniform, evenly distributed over the entire room.

Insulux Glass Block® panels assure better daylight for occupants and reduced operating costs for owners. Block and installation materials are noncritical.

A Daylight Engineer is ready to bring these benefits to your buildings . . . ready to help you plan an Insulux Fenestration System to meet your exact requirements. Just write Insulux Glass Block Division, Kimble Glass Company, Dept. AR11, Box 1035, Toledo 1, Ohio.

KIMBLE GLASS COMPANY

Toledo 1, Ohio



Subsidiary of Owens-Illinois Glass Company

Now you can Speed Up Work—and SAVE COSTLY DRAFTING TIME with the AMAZING NEW OZAMATIC!

New Compact OZAMATIC Does Everything Any Ozalid Machine Can Do in Copying Originals Up to 16" Wide.



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A Famous Home Builder*—Ozalid prints of topographic maps, general and detailed housing construction plans save drafting time, speed up work.

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Find out today how the Ozalid process can break through bottlenecks and save costly drafting time in your own operations. For full details on the amazing savings made possible by OZAMATIC (or a larger machine), write today (Dept. AR-8)—Or call the Ozalid distributor listed in the classified pages of your phone book.

*Names and details on request.

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OZALID

Johnson City, New York.

A Division of General Aniline & Film Corporation. "From Research to Reality."
Ozalid in Canada—Hughes Owens, Ltd., Montreal.

Architectural Engineering

LITERATURE

(Continued from page 272)

Specifications For Glass Insulation

Specifications for the Application of Foamglas in Low Temperature Space Installations. Booklet lists specifications and suggested application methods for the manufacturer's cellular glass insulation on ceilings, walls, floors, columns and beams. Contains information on finishes, adhesives, sealers, suggested thicknesses, paints and properties. Pittsburgh Corning Corp., 307 Fourth Ave., Pittsburgh 22, Pa.*

Computing Loads On Clay Pipe

Trench Loading Tables. Revised edition of reference booklet includes tables developed to help in computing trench work and to help reduce errors in calculating backfill loads on clay pipe. Tables show estimated load according to pipe size, trench depth and width, and type of backfill. 28 pp. Robinson Clay Product Co., 65 W. State St., Akron 9, Ohio.*

Aluminum in Architecture

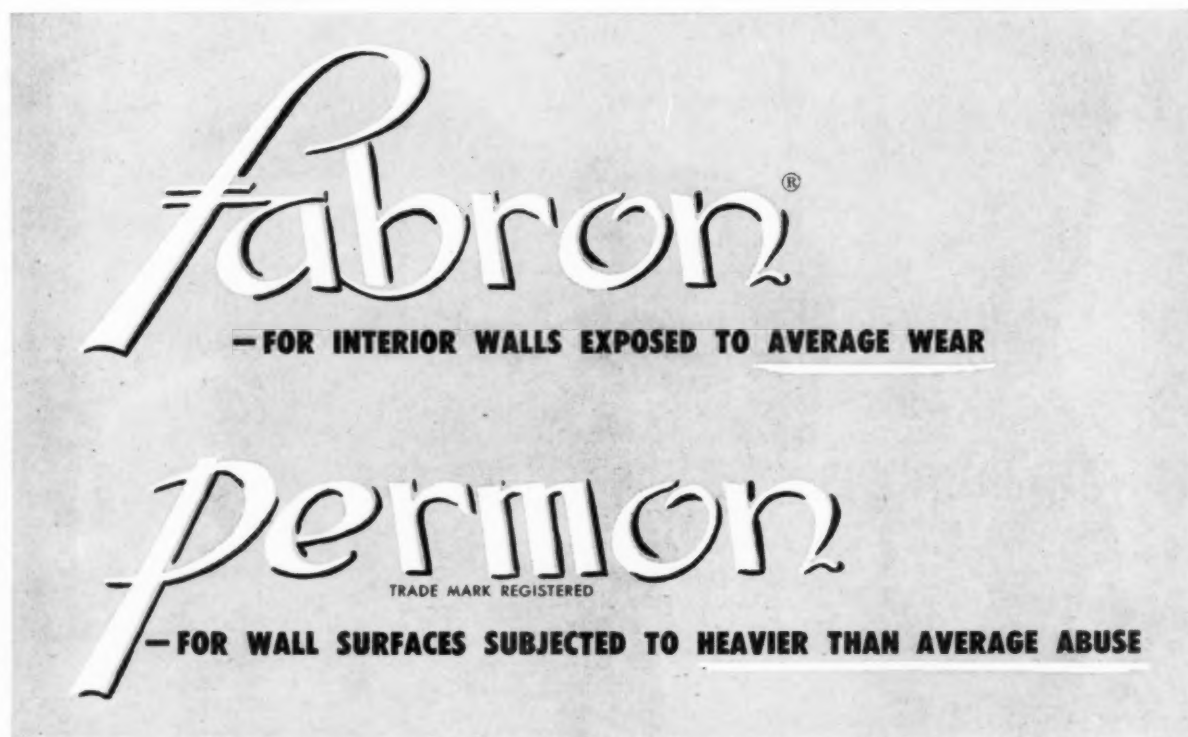
Reynolds Architectural Aluminum. Booklet discusses design factors in the employment of aluminum in architecture and illustrates these with specific applications and suggestions. Information on fabrication methods and finishes is included, together with specifications. A list of technical literature and movies which are available from the manufacturer is also furnished. Reynolds Metals Co., 2500 So. Third St., Louisville 1, Ky.*

Automatic Controls

Synchro-Start Automatic Controls, Catalog No. 4. This catalog contains information on all types of automatic control sets by the manufacturer. Including data on controls for diesel engines, battery, magneto and dual ignition engines, it presents photographs and technical drawings of the various units. A convenient sheet of list prices is inserted at the beginning. A ring binder facilitates adding additional sheets. 46 pp., illus. Synchro-Start Products, Inc., 8151 N. Ridgeway Ave., Skokie, Ill.

(Continued on page 282)

AND NOW-2 PLASTIFUSED FABRIC WALL COVERINGS



—THE IDEAL TEAM FOR COMPLETE INTERIOR WALL TREATMENT

FABRON: The new pattern collection—now available—is unsurpassed in the beauty and range of its color, texture and pattern effects. It promises to meet your every decorative need.

Its basic advantages: long-term durability . . . protection against plaster cracks . . . washability . . . sunfast colors . . . easy installation . . . *certified fire protection*—insure a long lasting decoration at the lowest cost-per-year. Tested in thousands of institutions throughout the United States and Canada.



PERMON: The result of years of research, PERMON was developed especially for use as a wainscot in such areas as corridors, service rooms, etc. It provides advantages never before combined in a flexible wall covering—simple application, unparalleled durability, dimensional stability, stain-resistance and washability—assuring permanent freedom from maintenance problems. Unusually attractive and colorful, too. Its initial cost—well within the average budget.

Plan on using a permanent FABRON and PERMON combination. May we send you samples and further details via the coupon?

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The institutional field's only specialists
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AR 11-58



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Counts
be sure*

**YOU SEE
THE CANVAS**

when you buy-
INSULATED BUSHINGS
SIZES 1 1/4" - 6"



**UNION INSULATED
CONDUIT END BUSHINGS**

*Made Tough to stand
hard service*

Experience proves that conduit wiring jobs using conductors of No. 4 or larger require insulated bushings of maximum strength.

Union's Canvas Impregnated Insulated Bushings are molded in generous proportions of the highest strength Bakelite.

The canvas cloth evident on the surface is your guarantee of maximum strength. Insist on bushings with the "canvas" in full view and insure the most trouble-free, safe wiring jobs.



UNION INSULATING CO.
PARKERSBURG, W. VA.



Architectural Engineering

LITERATURE

(Continued from page 278)

Hardware for Hospitals

Russwin Builders' Hardware for Modern Hospital Service. Booklet shows builders' hardware recommended by the manufacturer for all types of new and old hospitals. Included are door closers, cylindrical locks, door holders, mortise locks and latches, fire exit bolts, door pulls and miscellaneous hardware. 4 pp., illus. Russell & Erwin Div., American Hardware Corp., New Britain, Conn.*

Resins Used in Plastics

Bakelite Polyester Resins for Reinforced Plastics. Directed particularly to product designers, booklet summarizes characteristics of the manufacturer's polyester resins used to produce light-weight reinforced plastics. Numerous tables and graphs illustrate the physical, chemical and electrical properties of the resins, and data on U. S. Air Force specifications, bench life of the resins, fillers and similar material are included. 30 pp., illus. Bakelite Co., a Division of the Union Carbide and Carbon Corp., 300 Madison Ave., New York 17, N. Y.

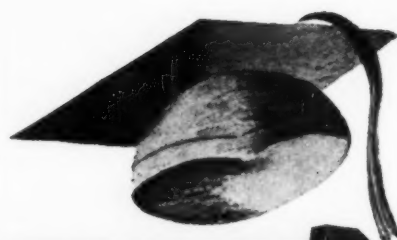
Daylight for Schools

How to Get Nature-Quality Light for School Children. Booklet presents in simple language a number of the results of research and study into the problem of getting adequate daylight into schools. Requirements of the American Standard Practice for School Lighting are illustrated, "recommended practice" is explained, and examples of schools which meet the requirements and fit residential environment are shown. Case histories, photographs, diagrams and typical cost figures are also included. 24 pp., illus. Libbey-Owens-Ford Glass Co., Nicholas Building, Toledo 3, Ohio.*

Exhibits at Builders and Home Shows

How to Run a Builders' Show Exhibit. In topic outline form, booklet covers six main subjects: Objective of the Show, Pre-Show Activities, The Exhibit, Personnel, Operation of Show and Follow Up After Show. 16 pp., illus. Kaufmann Corp., 17210 Gable, Detroit 12, Mich.

(Continued on page 286)



CASTELL

*the Drawing
Pencil
with the
Master
Degrees*

- SMOOTHER . . . no hard spots.
- GRAPHITE-SATURATED . . . better adhesion.
- MORE OPAQUE . . . better blue and white prints.
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Leads
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"Master
Degrees"

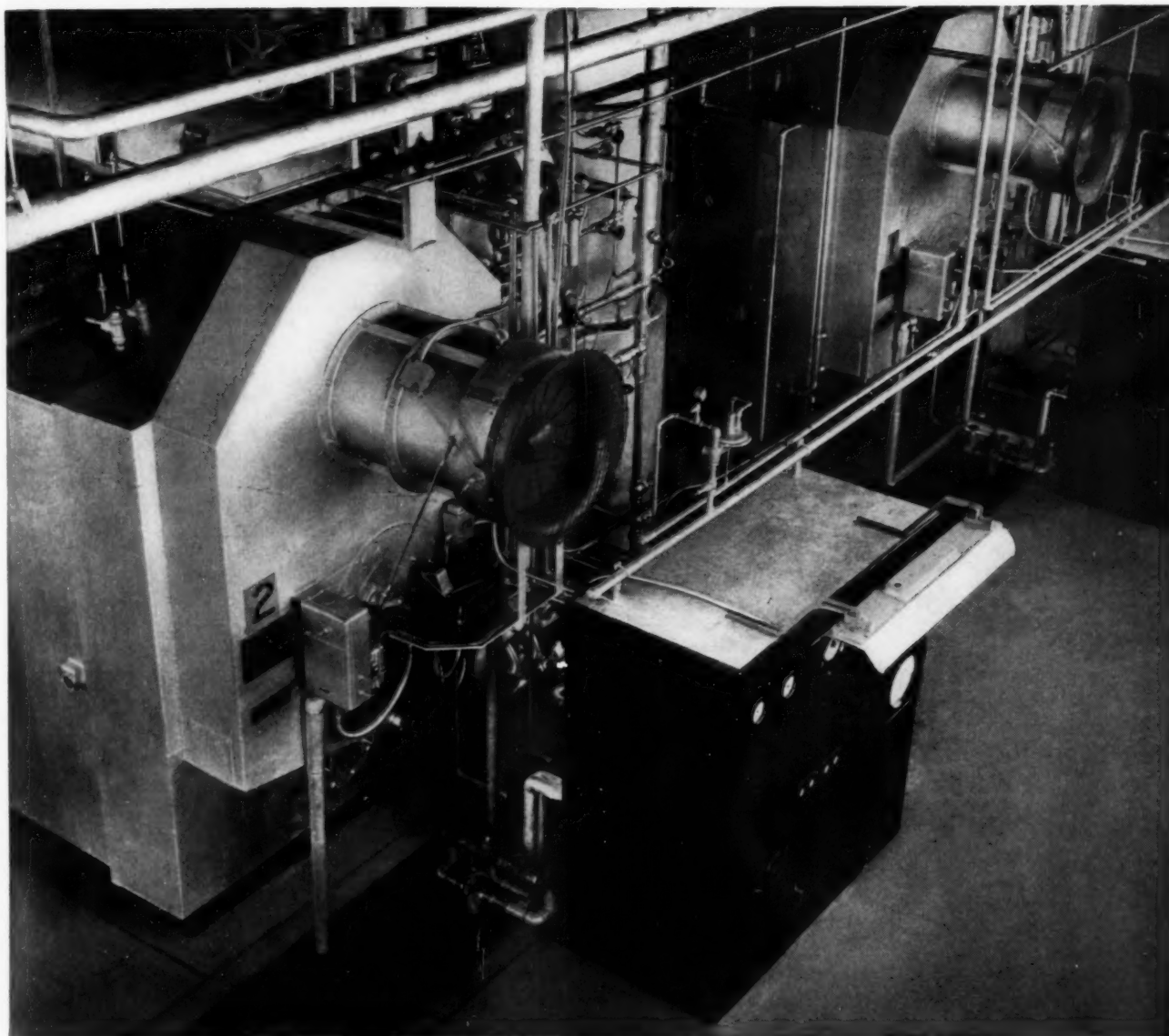


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- Low Maintenance
- Easy Accessibility
- Suitable for Outdoor Service
- Burns Oil and/or Gas
- Saves Fuel
- Saves Space
- Safe, Automatic Operation

The shop-assembled B&W Integral-Furnace Boiler, Type FM, has gained industry-wide acceptance. Prominent companies in over 50 different industries, along with numerous utilities, educational institutions, hotels, hospitals, housing projects, office buildings, and government agencies have already selected this compact, self-contained steam generating unit for installations in 34 states, three U. S. territories and five foreign countries. Total steam capacity of units now in service and on order exceeds 5½ million pounds per hour. Nearly half of this capacity consists of multiple-unit applications of FM boilers instead of single larger-capacity units.

This recent B&W creation in low-cost steam generation is available in standardized sizes for loads of 2900 to 28,000 lb per hr at steam pressures to 250 psi.

Send for Bulletin G-76 describing and illustrating the many cost-saving features of this popular boiler. The Babcock & Wilcox Company, Boiler Division, 161 East 42nd St., New York 17, N. Y.



**BABCOCK
& WILCOX**

G-573



In a class by itself
... double-duty

ARMORPLY® CHALKBOARD

Armorply is the only chalkboard that serves you in two ways ... as a superior writing surface and a magnetic bulletin board ... at the same time.

An Armorply Chalkboard® installation (like this one at Harvard University) gives these other advantages also:

Takes chalk beautifully. Armorply's smooth porcelain-on-steel® finish is easy to write on and easy to clean off. Tests prove Armorply will not choke with chalk...never needs refinishing.

Gives maximum readability. Armorply's easy-on-the-eyes, chlorophyll-green color was selected by color experts after exhaustive research to give better reflectivity and higher light intensity values.

Makes notice-posting easy. Small permanent magnets hold notices firmly on the surface. Eliminates thumb-tacking, scarring holes, broken nails, difficult removal.

Guaranteed for life of building. Durable Armorply lasts and lasts. Won't warp, buckle, explode, shatter or break. Never needs refinishing, repair or replacement. Armorply means less trouble and lower maintenance costs.

Next time you plan a new school or the remodeling of an old one, for greater service, satisfaction and savings, specify research-developed, classroom-tested Armorply Chalkboard. For additional information mail this coupon today.

Armorply Chalkboard is sold only by distributors.

UNITED STATES PLYWOOD CORPORATION
55 West 44th Street, New York 36, N. Y.
World's Largest Plywood Organization

* Porcelain enamel finish produced by the Bettinger Corporation.



UNITED STATES PLYWOOD CORPORATION
55 West 44th Street, New York 36, N. Y.

AR-11-52

Please send me descriptive literature about Armorply Chalkboard.

Name

Address

School or Company Title

Architectural Engineering

LITERATURE

(Continued from page 282)

Adjustable Air Diffusers

Kno-Draft Adjustable Air Diffusers. Revised and expanded catalog of the manufacturer's line of air diffusers. Each model is illustrated and photos show typical installations. Included are specifications, temperature differential and mounting height scales, expanded selection curves, air entrainment ratios, static pressure and resistance charts, "throw" formulas for determining terminal velocities other than standard, and simplified balancing and testing data. W. B. Connor Engineering Corp., Shelter Rock Lane, Danbury, Conn.

Fireplace Accessories

Catalog of Modern Firescreens. Catalog illustrates the manufacturer's portable, attached and corner firescreens; spark arresters; special attachments for unusual fireplaces; hearth fenders; andirons; tools and firesets. Finishes, list prices, specifications and special features of each model are included. A section on mesh specifications completes the contents. 36 pp., illus. Portland Willamette Co., 808 S. E. Alder St., Portland 14, Ore.

Decorative Plastic Laminates

Pionite Decorative Plastic Laminates. Brochure describes and illustrates the many ways in which these plastic laminates may be used for furniture, work surfaces and paneling. Custom applications are discussed, and pattern and decorator color samples are presented. Standard sheet sizes are also given. 6 pp., illus. Pioneer Plastics Corp., 28 Goodhue St., Salem, Mass.

LITERATURE REQUESTED

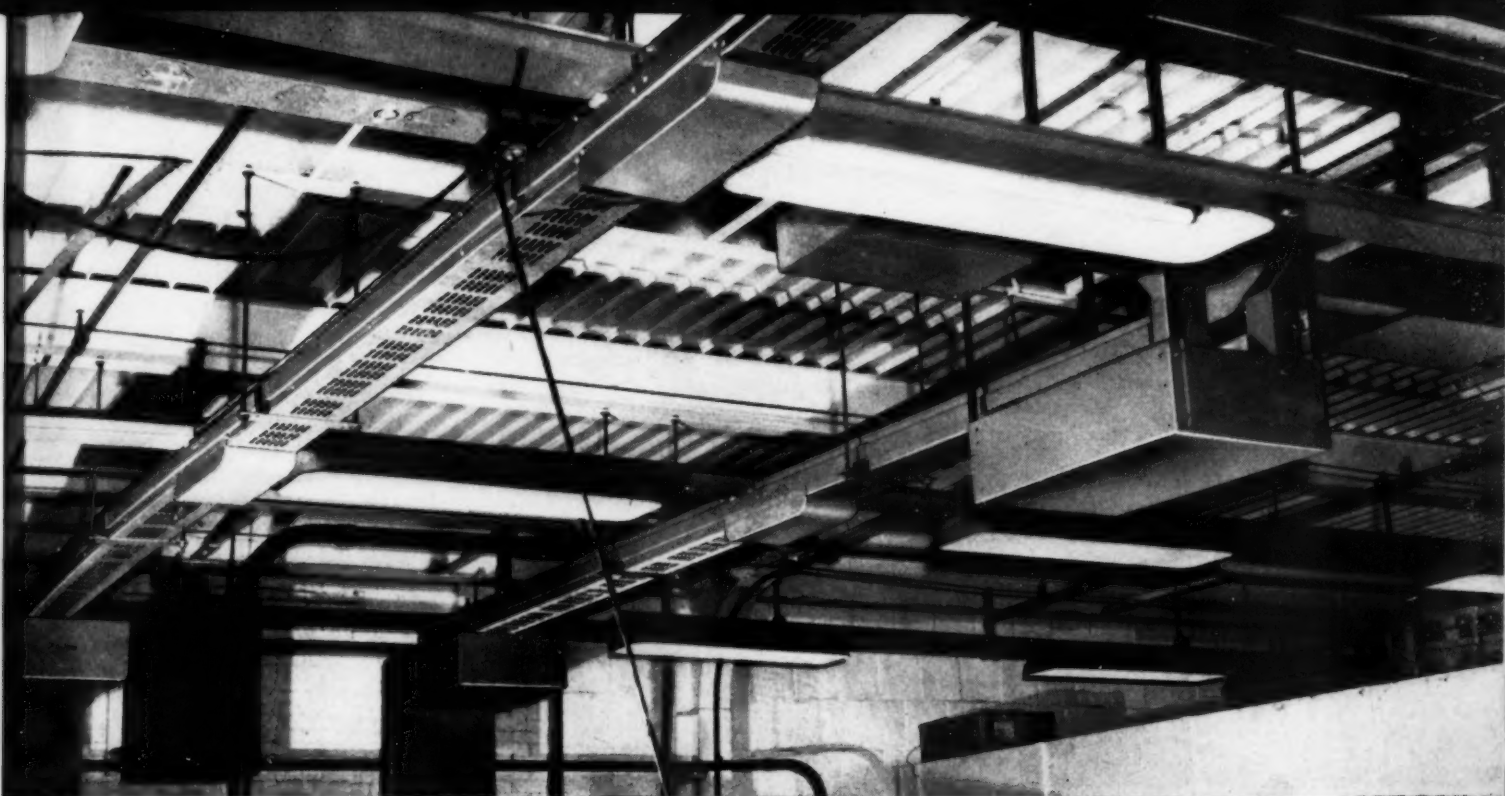
The following individuals and firms request manufacturers' literature:

J. Gerada-Azzopardi, Student, 7 Parallel St., Sliema, Malta, G. C.

Design Associates, P. O. Box 1152, Statesville, N. C.

Bertram S. Koselen, Architect, 2163 Lee Rd., Cleveland Heights 18, Ohio.

Dr. Herman J. Peters, Student Personnel Office, Chico State College, Chico, Calif.



TYPICAL TRUMBULL LVD FLEX-A-POWER installation in a large factory.

Modern power distribution made more convenient, more economical!

Industry has long taken advantage of the benefits of Trumbull LVD FLEX-A-POWER. FLEX-A-POWER's economy of installation, efficient performance and complete flexibility have aided in cutting plant overhead costs throughout the nation.

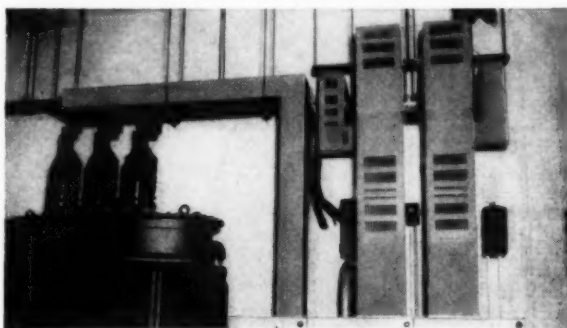
Now, Trumbull Electric offers LVD (Low Voltage Drop) FLEX-A-POWER with *aluminum* busbars — a major contribution to the busway field.

LVD now has the outstanding additional advantage of being 25 to 35% lighter in weight—making LVD FLEX-A-POWER easier to handle and cheaper to install. All joints are silver plated for positive contact and longer life. In many cases there is less voltage drop, which contributes to operating efficiency.

The modern Trumbull LVD FLEX-A-POWER is available with current ratings of from 600 to 3000 amps, in 2, 3 or 4 pole construction, 4000 amps in 2 and 3 pole construction, and is suitable for 600 volt service.

Trumbull Assures LASTING FLEXIBILITY in Power Distribution

There is no delivery problem with aluminum LVD. Write for complete information.



ONE OF MANY APPLICATIONS OF ALUMINUM LVD FLEX-A-POWER is as a feeder from transformer to switchboard.

TRUMBULL ELECTRIC

DEPARTMENT OF GENERAL ELECTRIC COMPANY
PLAINVILLE, CONN.

THE RECORD REPORTS

after wartime need. This raises the old question of direct Federal Government construction. It is promised that all means of making up deficiencies, wherever revealed, will be explored. And the quarterly report adds that Congress, the President and the ODM administrator all take the position that government construction of plants should remain "a last resort." All possible means of utilizing loans and special contractual arrange-

WASHINGTON (Cont. from p. 38)

ment, as well as tax authorization benefits, will be considered, it promised.

Fowler Poses Question

The whole question of "industrial readiness" is posed in the quarterly report to the President. ODM Administrator Henry H. Fowler, who resigns his government position the end of this year, recommended that these aspects of the mobilization program be examined:

Beautiful...

IT WILL INSTANTLY APPEAL TO THE
MOST DISCRIMINATING



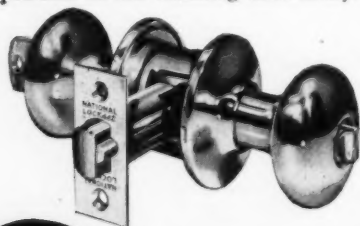
Series "410"

NATIONAL LOCKset

PATENT APPLIED

Dignity of Styling... Lasting Finishes

Complementary to every type of architecture, the new NATIONAL LOCKset has about it an expression of good taste that universally appeals. Its gleaming mirror-like finishes are long-time protected by lasting baked-on varnish. Speed of installation... exclusive protective features... selected materials... and skilled craftsmanship make NATIONAL LOCKset the most talked about product in the building field today. Write for catalog.



No. 411D Key Lock
(exterior)

No. 412 Turnbutton Lock
(porch, patio)

No. 414 Privacy Lock
(bathroom, bedroom)

No. 418 Knob Latch
(interior passage)



DISTINCTIVE HARDWARE... ALL FROM 1 SOURCE

NATIONAL LOCK COMPANY

ROCKFORD • ILLINOIS

MERCHANT SALES DIVISION

1. Which key raw materials would be needed in greater volume for full wartime production and in what amounts? Are stockpiles of these materials being built as rapidly as is now desirable, with emphasis on the items that would most severely limit us in an early all-out effort?

2. Despite the greatest industrial plant-building program in history, are there still industries which do not have an adequate working margin of capacity to produce the implements of war on a scale to meet likely contingencies? *We should reassess not only our capacity for producing the basic materials, but also the finishing capacity necessary to process these materials into the shapes and forms that would be most needed in time of war. We need also to reassess our fuel, energy, transportation and storage capacities.*

3. Do we need to take additional steps to assure that the supplies of components for military goods will be adequate at the outset of a major production effort, in order not to delay the manufacture of long lead-time weapons?

4. What additional specialized machine tools and other long lead-time production equipment need be available in order to permit a fast build-up toward full mobilization rates of production?

5. Are there key points in our production processes where production of critical war materials or products would depend upon a single plant or a single city? In these cases we need to consider both protective measures and secondary sources of supply in order to reduce the vulnerability of war production in case of attack.

6. After our immediate military requirements are met and a good start has been made in building reserve stocks, should we schedule our production so as to keep our production lines going at a maintenance rate?

7. Have all appropriate steps been taken to prepare for the most efficient utilization of our manpower resources in time of war? Are steps being taken to overcome identifiable deficiencies in our potential labor force?

Building Backlog Cited

Mr. Fowler's report recognized the need for expanding non-defense as well as defense production. People throughout the nation, it said, look forward to building the postponed schools, hospitals, stores, roads, irrigation and flood control systems, and improved consumer goods. The controllers promised that as more and more materials reach a balance

(Continued on page 298)

HOW LIGHT ENTERS CLASSROOMS

Up-to-date information on how light enters classrooms through economical clear glass. Latest research by Professor R. L. Bieseke, Jr. of Southern Methodist University, light-meter readings in schools compared with *Recommended Practice for Daylighting*.

DATA ON DAYLIGHTING NEEDS

Data from *Recommended Practice for Daylighting* compactly and clearly presented for quick reference.

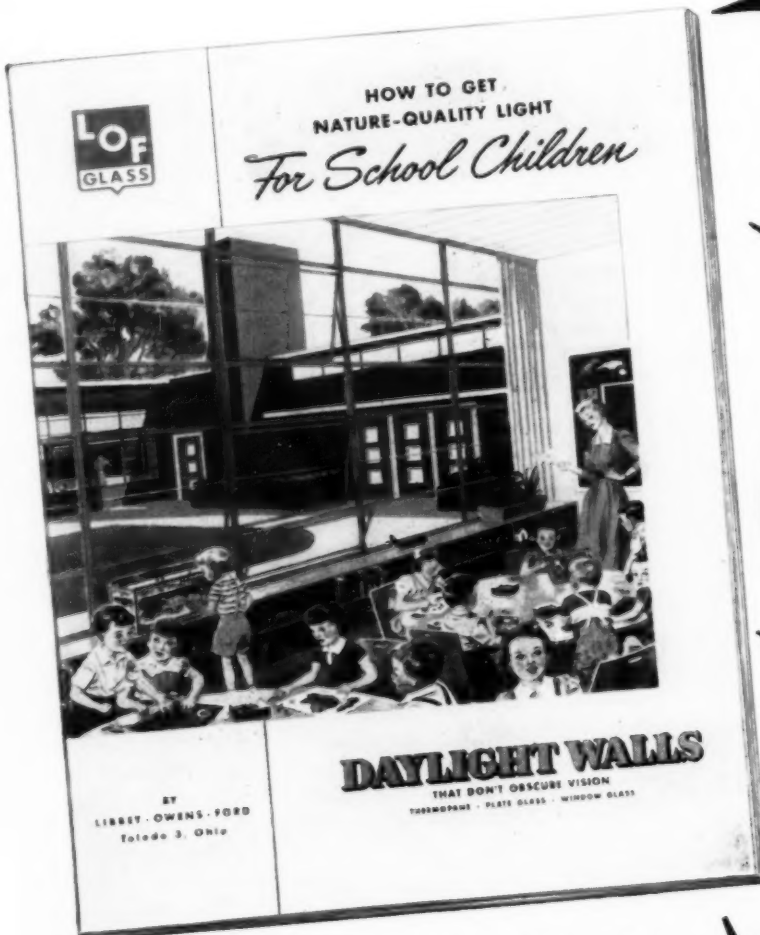
LIGHT TRANSMITTANCE CHART AND SHADING DEVICES

Sunlight map and lots more data of repeated use to anyone designing schools.

PHOTOGRAPHS

of unusual architectural uses of glass in school design by:

Walter T. Anicka
Bush-Brown, Gailey &
Heffernan
Ganster and Hennighause
Guirey and Jones
Charles D. Hannan
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Walter Scholer
Wilson and Patterson



THIS 24-PAGE, lavishly illustrated book brings together the standards laid down by the Committee on Daylighting for the illumination and architectural professions. It shows examples of how those standards have been met by leading architects by using clear glass windows. The book also contains a great deal of material on daylighting never before published in concise form.

Easy reading, informative, beautiful, this book is a quick reference to keep on hand.

FREE COPIES AVAILABLE TO ARCHITECTS

Write Libbey-Owens-Ford Glass Company
41112 Nicholas Building, Toledo 3, Ohio

Please send me a free copy of HOW TO GET NATURE-QUALITY LIGHT FOR SCHOOL CHILDREN.

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City..... State.....

Firm.....

THE RECORD REPORTS

between supply and demand, including materials for stock-piling, "we will be able to relax and remove the controls on the distribution and consumption of materials for civilian use. The way will then be open for catching up on the improvements we have been deferring because of the more urgent needs of the military programs."

The seventh quarterly report noted, too, that residential mortgage debt has

WASHINGTON (Cont. from p. 294)

been rising at a somewhat higher rate this year than during the second half of last year. Despite this, however, the direct credit controls on terms of housing credit and on non-residential real estate credit under Regulation X were suspended.

In a comparative statement on this, ODM said:

"While controls over housing credit have been suspended, post-Regulation

X minimum down payments on government-aided programs are in some cases higher than pre-Korea. For houses valued at \$17,500 or less, FHA terms for down payments are at the same statutory levels which prevailed before Korea; for higher priced homes down payments are higher than they were in early 1950. VA requirements on guaranteed veterans' housing loans are now five per cent down for all homes above \$8400 as compared to no specific down payment before Korea.

"Conventional mortgages, covering about 75 per cent of all home purchases, are now free from controls and are subject only to regulations long imposed on banks and other lending institutions; however, it is now possible to make a portion of the down payment by a second mortgage—a practice prohibited by Regulation X."

MAY 1 IS NEW DATE FOR EASING BUILDING CURBS

Industry Continues Pressure For Earlier Relaxation

Still "undecided" as to the course of action on removal of some construction controls, National Production Authority officials said early last month that they were postponing the date for relaxation of regulations from April 1, 1953, to May 1, 1953. This proposed action also included permitting builders of amusement, entertainment and recreational structures to begin writing their own tickets for controlled materials, in limited amounts, for the first time since the big freeze began after Korea.

But in the same breath the NPA head office said that there was a possibility the date might be advanced to the April 1 target set with the earlier announcement in August.

Industry representatives were certain to continue their pressure for a still earlier removal of the controls; or, rather, a start toward their eventual removal. For the initial step to be taken, as outlined in detail in the October release, will consist of an increase in amounts of controlled materials that can be self-authorized for commercial and most other kinds of construction and the lifting of the total ban on amusement and recreational types.

The entire matter was to be reviewed at another meeting of the Construction Industry Advisory Committee task group on October 29. It then was to be decided exactly when the changes would be made effective.

(Continued on page 302)

End 3-Year Redecorating Cycle!

Tri-Dimensional Wall Covering Stays Beautiful Permanently!

Imagine a wall covering that remains beautiful forever, ending for all time the cost and inconvenience of repeated redecorating!

Linkrusta is a durable, plastic-type wall covering with authentic designs dramatically etched in true sculptured reliefs. These textures are so rugged, so resistant to abuse, they're *practically indestructible*. Washable, too! Linkrusta withstands repeated scrubbing with no danger of marring its textured beauty.

Linkrusta lasts the life of the wall itself — actually strengthens walls and prevents plaster cracks.

WOODBARK

Original

LINKRUSTA

Imported

WICKER WEAVE



FREE! Linkrusta Specification E gives full details about this permanent wall covering. Write today on your letterhead.

Wall Trends, inc.

Manufacturers of hand printed wallpaper and Stylom wall canvas

Showroom: 509 Madison Avenue
New York 22, New York

BRICK



WARDROBEdoor

FOR SCHOOLS

GOES

UP

SAVES SPACE

Building demands being what they are, any space that can be saved is an advantage. Here — illustrated in cross-section at the right — is a wardrobe door specifically designed to *save space*. It is a two-section door, opening *upward* as the drawing indicates. Counterbalancing, synchronizing, and double action provide easy operation up or down. Facing can be chalk board, cork board, or any desired combination. Wardrobes can be minimum depth; and there is no intrusion on aisle space, which can also be minimum — with *substantial* floor-space saving. The Barcol WARDROBEdoor is ideal for remodeling, too. Let your Barber-Colman representative give you full details — look for his name in the Yellow Pages of your telephone directory.



SALES AND SERVICE REPRESENTATIVES IN PRINCIPAL CITIES



BARBER - COLMAN COMPANY
102 MILL STREET • ROCKFORD, ILLINOIS

THE RECORD REPORTS

FIRST-QUARTER PINCH: STEEL ALLOTMENTS CUT

DPA Expects Few New Starts In Non-Defense Building

Few new construction projects will be permitted under the harsh action of Defense Production Administration reducing allotments of structural steel for the first quarter of 1953.

WASHINGTON (Cont. from p. 298)

All construction already started will be permitted to continue, but the reductions in essential structurals deal a temporary blow to most non-defense programs — for instance, the school and hospital programs, which were picking up speed rapidly. The builder of single houses will be unaffected; Housing and Home Finance Agency, as claimant agency for public housing construction, said there would have to be some defer-

ments in building elevator apartments; construction of the garden-type can continue.

The allotment of steel for schools was dropped from 40,946 tons in the third quarter of 1952 to 32,000 tons in the fourth, and to 28,000 tons in the first quarter of next year. This, said Office of Education officials, will allow most projects for which applications for steel have been received. But it likely will be impossible to meet new demands stemming from an evaluation of the increased enrollment — 1.7 million pupils this fall over last year.

In the hospital category, U. S. Public Health officials expressed hope that first quarter amounts will take care of all going projects. They said some projects may have to be deferred, however. Structural steel tonnage for the hospital program was dropped by DPA from 24,800 tons in the third quarter of this year to 19,540 in the fourth and 17,500 in the first quarter, 1953.

Defense Needs Increase

The fewer tons for industrial expansion reflected increasing completion of projects in that program, the DPA said, lessening the requirements. Thus, an allotment of only 137,250 tons for this purpose was permitted for the first quarter next year, compared with 256,561 tons in the third quarter of 1952 and 219,171 tons in the fourth.

Civilian construction suffered in the move because the assignment of structurals to Atomic Energy Commission.

(Continued on page 306)

FACTS FOR ARCHITECTS

ABOUT "CONSTRUCTION BY ADHESION"

HERE ARE NEW METHODS
WHICH MEAN SUBSTANTIAL
SAVINGS IN LABOR AND
MATERIALS FOR MODERN CONSTRUCTION
in both **NEW** building and **MODERNIZATION**

WRITE TODAY FOR RECOMMENDED SPECIFICATIONS ON
1. Setting Genuine Clay Tile. 2. Insulating Ducts. 3. Insulating walls and ceilings
either by Direct Adhesion or in conjunction with Surface Anchors. 4. Installing
floor runners; bonding furring strips.

1. 
Today it is normal procedure to install clay tile in hotel bathrooms without losing a night's revenue. This illustration shows one of the 144 rooms in the White Plaza Hotel, Dallas, Texas, in which MIRACLE ADHESIVE was used to do the job from the time the guest left his room in the morning until he returned that afternoon.

2. 
Plaster applied over wire and cork which has been attached to aluminum ducts using MIRACLE ADHESIVE and MIRACLE SPINDLE ANCHORS at John Hancock Mutual Life Insurance Co. Building, Boston, Mass. ARCHITECT, Cram and Ferguson. BUILDER, Turner Construction Co.

3. 
FIBERGLAS insulation, Type PF-613, 2" thick — bonded to concrete ceiling using MIRACLE PRONGED ANCHORS at Radio City Studio 6B, New York, N. Y. CONTRACTOR, William J. Scully, Inc., New York, N. Y.

4. 
WOOD RUNNERS installed on concrete floors with MIRACLE ADHESIVE and MIRACLE ANCHOR NAILS to support 2" solid partitions. Washington Circle Apartments, Washington, D.C. GENERAL CONTRACTOR, Charles H. Tompkins Company.

VISIT MIRACLE EXHIBIT AT ARCHITECTS SAMPLES CORP. 101 PARK AVE., NEW YORK CITY
Distributed Coast to Coast and in Canada



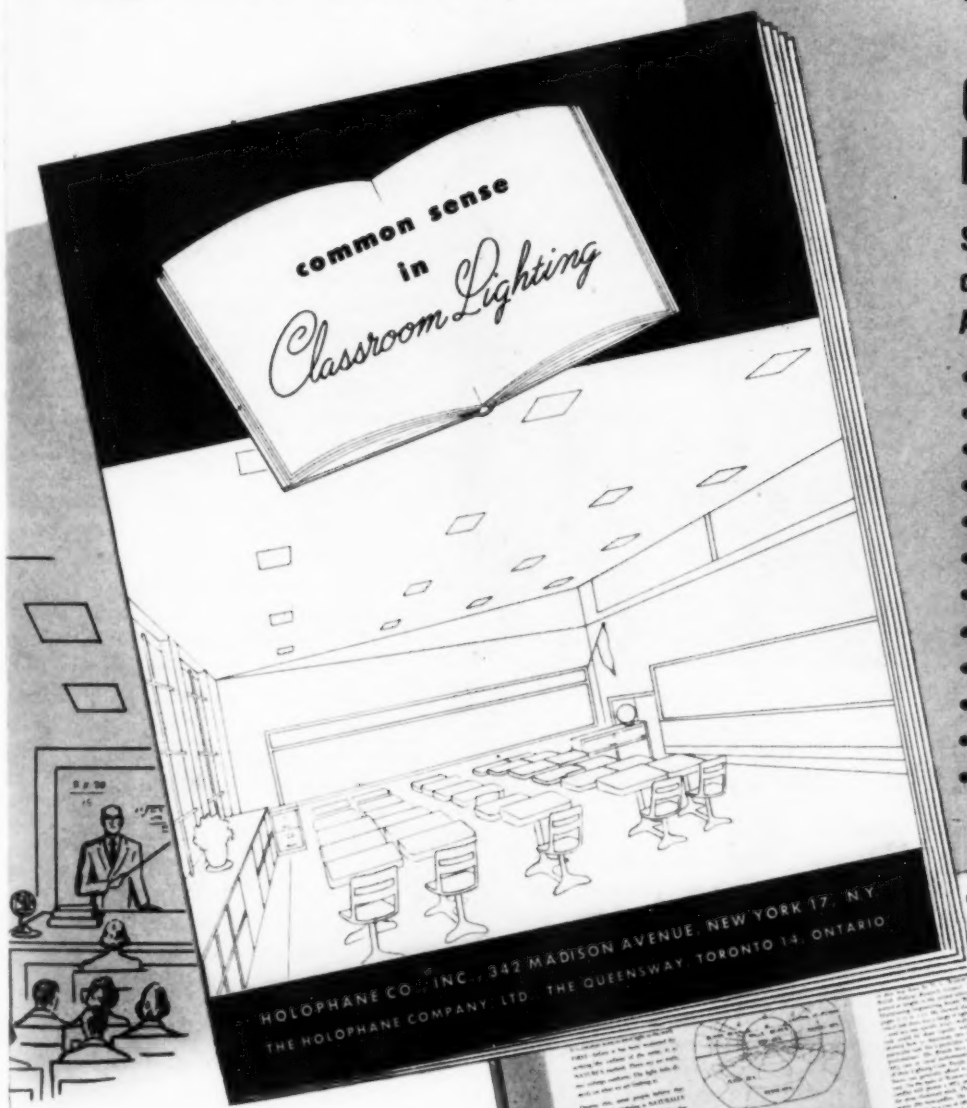
H. E. Foreman of Washington, managing director of the Associated General Contractors of America; Arthur S. Horner, Denver, president; and C. P. Street, Charlotte, N. C., current vice president who was nominated for president in 1953 at the mid-year meeting of the Association's governing and advisory boards.

GET YOUR COPY NOW!

Holophane's Latest Data on CLASSROOM LIGHTING

Some of the Subjects
covered in this
Authoritative Book:

- Maximum Utilization of Light
- Minimum Lighting Requirements
- Improved Quality of Lighting
- Brightness Control at Source
- Reflected Glare
- Visual Comfort
- Reflection Factors
- Brightness Control at All Surfaces
- Illumination Levels
- Cost Analyses
- Comfort Response
- Outstanding Installations



In every community — new schools, larger schools, remodeled schools are now under construction . . . Efficient lighting, minimum lighting requirements, quality of illumination as well as cost analyses are basic considerations. Holophane Engineers, with a long record of achievement in lighting educational areas, have compiled this book: "Common Sense in Classroom Lighting." Sent to architects, engineers and school authorities, without charge.



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Lighting Authorities Since 1898 • 342 MADISON AVENUE, NEW YORK 17, N. Y.
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It's FoldeR-Way for BELOIT, too!



Memorial Senior High School, Beloit, Wis. Opening size: 133' x 27'3"

Stretch your space and appropriation with FoldeR-Way® Automatic FOLDING PARTITIONS by Richards-Wilcox

In this photograph taken at Memorial Senior High School, Beloit, Wisconsin, you can readily see how Richards-Wilcox FoldeR-Way folding partitions provide greatest flexibility to given areas of space. You can see how the partitions close to isolate the boys' and girls' gym classes from each other. Also, how the FoldeR-Way partition opens for conference games, and similar events, making the complete gym one vast playing arena and gallery.

But you can't see these EXCLUSIVE FEATURES:

1. **Fully Automatic.** All folding, unfolding, locking, unlocking, and sound-proofing operations are accomplished by the electric operator and its auxiliary mechanism. You merely turn the switch key—R-W does the rest.
2. **Positive, Silent Action Roller Chain Drive.** Will not slip, stretch, or break.
3. **Friction-Proof Track.** Ball-bearing hanger wheels are machined to provide a line contact with the $\frac{3}{8}$ " round cold-rolled steel bar runways of the track, assuring minimum friction and silent operation.
4. **Gymnasium Doors Are Full Three Inches Thick Over Entire Area.** This provides flush surface similar to a solid wall. Eliminates protruding butt-hinges in players' contact zone below seven foot level.
5. **Fully Automatic Floor Seals.** Self-adjusting to uneven spots in floor. No levers or manual effort required to operate.

For further information about R-W FoldeR-Way Automatic Folding Partitions, write, phone or wire our nearest office.

See an R-W FoldeR-Way Automatic Partition in operation at any of the Schools in the partial list at right, or write for address of installation nearest you:

Kent State University, Kent, Ohio—Opening: 114' x 20'
Hinsdale Community High School, Hinsdale, Ill.—Opening: 127' x 28'
Arvin High School, Arvin, California—Opening: 143' x 26'
Kinkaid School Gymnasium, Houston, Texas—Opening: 71' x 21'
High School, Brookline, Mass.—2 Openings: 100' x 20' and 130' x 20'
Banks School, Bay City, Michigan—Opening: 50' x 18'



Richards-Wilcox Mfg. Co.

SHOWERS FOR ONE HOUR THAT STAYS
AURORA, ILLINOIS, U. S. A. • Branches in all principal cities

THE RECORD REPORTS

WASHINGTON

(Continued from page 302)

the military and a few other essential programs had to be increased. And the steel strike loss was just making itself felt.

Fowler: Keep CMP Until July 1

Henry H. Fowler, Office of Defense Mobilization administrator, was urging retention at least until July 1 of the Controlled Materials Plan; he said abandonment would interfere with the ability of executive agencies to carry out the decisions of Congress during the first half of next year.

Mr. Fowler, testifying before the Joint Congressional Committee on Defense Mobilization, warned: "It would be an error to the point of folly to mistake the alleviation of our worst and early shortages and the buildup of particular phases of our defense production effort, for the completion of the mobilization effort. In fact, we are only part way through to the achievement of other important objectives of the defense mobilization program such as the completion of the military buildup and the rounding out of the mobilization base."

Aluminum Pushed Again

Last month, too, came the announcement that the Federal Government would foster another round in expansion of aluminum production capacity, this time seeking a 200,000 short ton increase. This was a long-debated subject with Congress actively supporting a domestic effort as opposed to long-term contracts with Canada for heavy importations. A heavy stockpile demand was credited with forcing an affirmative decision.

Mr. Fowler assured Congress that the DPA would attempt to secure this expansion from new domestic producers, "so far as possible."

He wound up the subject by saying that even with realization of the new goal, and the subsequent bolstering of the aluminum stockpile, further capacity would be needed if war came within the next three years. Said Mr. Fowler: "If no action is taken now, or in the near future, and total mobilization should prove necessary in the critical period ahead, a huge expansion would have to be undertaken after the events requiring full mobilization and would impose not

(Continued on page 310)



"Our railroad bridge is an

EYE OPENER

for anybody with an assembly problem"

"Whether you're assembling toasters or bridges," Ken went on, "it pays to set your sights on fasteners."

"Fasteners?" asked Jack.

"Right!" affirmed Ken. "We've saved plenty by taking the RB&W man's advice to switch from rivets to high strength RB&W bolts in assembling high stressed structural joints."

"These bolts stay tight and that saves us maintenance. They assemble faster, and that saves us labor and construction time."

There's a cost-cutting lesson for you in this story, whatever your industry.* So look to your fasteners for an often overlooked opportunity to reduce costs, and strengthen your competitive position. New inventions, like RB&W's SPIN-LOCK Screw, may prove more efficient

than the fasteners you're now using.** Or you may save by the stepped-up production you get from using the finest fasteners...RB&W bolts, nuts, rivets and screws of uniform accuracy, dependability and physical properties.

Let RB&W help you make the most efficient use of fasteners on your assembly line. Address RB&W at Port Chester.

RB&W—The Complete Quality Line. Plants at: Port Chester, N. Y., Coraopolis, Pa., Rock Falls, Ill., Los Angeles, Calif. Additional sales offices: Philadelphia, Pittsburgh, Detroit, Chicago, Dallas, San Francisco. Sales agents: Portland, Seattle. Distributors from coast to coast.

**RUSSELL, BURDSALL & WARD
BOLT & NUT COMPANY**

RB & W

107 YEARS MAKING STRONG THE THINGS THAT MAKE AMERICA STRONG

*If you're interested in construction, write RB&W at Port Chester for the free article, "No More Riveting."

**New SPIN-LOCK Catalog is in the Product Design File. Write for extra copies.

The Architect's Question Box



Published now and then in
the interests of wood finishing
by **FIRZITE®** and **SATINLAC®**, those
two little **WIZARDS** with **WOOD**.

QUESTION: Plywood is sanded in the mill—why do you recommend another sanding prior to finishing?

ANSWER: Sanding removes finger and dust marks as well as any grain-raising caused by moisture. Poorly sanded or unsanded sections will cause a spotty or irregular finish.



QUESTION: Why does White FIRZITE produce such beautiful Pickled and Blond effects?

ANSWER: The special formulation of White Firzite penetrates deep down into the pores of the wood. The grain of the wood is not obscured and a beautiful "Woodsy" effect results, as distinguished from a "painty-looking" job.



QUESTION: Can SATINLAC be used over silex paste wood fillers?

ANSWER: Yes. Being water-clear in color, SATINLAC produces an excellent clear finish when used over paste wood fillers. It is important that the filler be wiped clean and allowed to dry at least 24 hours before the SATINLAC is applied.



QUESTION: To obtain light pastel and gray shades on Blond and Pickled effects, what is used to tint White FIRZITE?

ANSWER: Colors-in-oil should be used to tint White FIRZITE.

*If you have any other problems on wood finishing
let us help you. Write also for specifications.*

May we send you a blond Birch panel showing SATINLAC finish?

UNITED STATES PLYWOOD CORPORATION
Dept. 142, 55 West 44th Street, New York, N. Y.



THE RECORD REPORTS

WASHINGTON

(Continued from page 306)

only delay but heavy burden on an economy that would be under the severest strain."

Lenders Oppose Segregation Of Housing for the Aging

The National Savings and Loan League has entered a current architectural controversy by expressing disapproval of "segregating" older persons in housing developments planned for them.

The increasing longevity of life in the U. S. has been one factor focusing new attention on the problem of housing for the aging. The League reports savings and loan associations are now receiving a much larger number of requests for loans on specially-designed houses with facilities for those whose adaptability and faculties have decreased with age.

President of the League, Raleigh W. Greene, made these comments on segregated developments:

"The construction of separate housing projects for the aged, either at private or government expense, is a matter I am strongly against, for the happiest older people are generally those in daily contact with the young and not those set apart from the general population.

"Savings and loan associations are willing to finance homes for older people, and most managers seem to believe the increased period of average life in the U. S. also means an increase in the period when a person can be gainfully employed, meeting obligations and duties, and taking an active part in society.

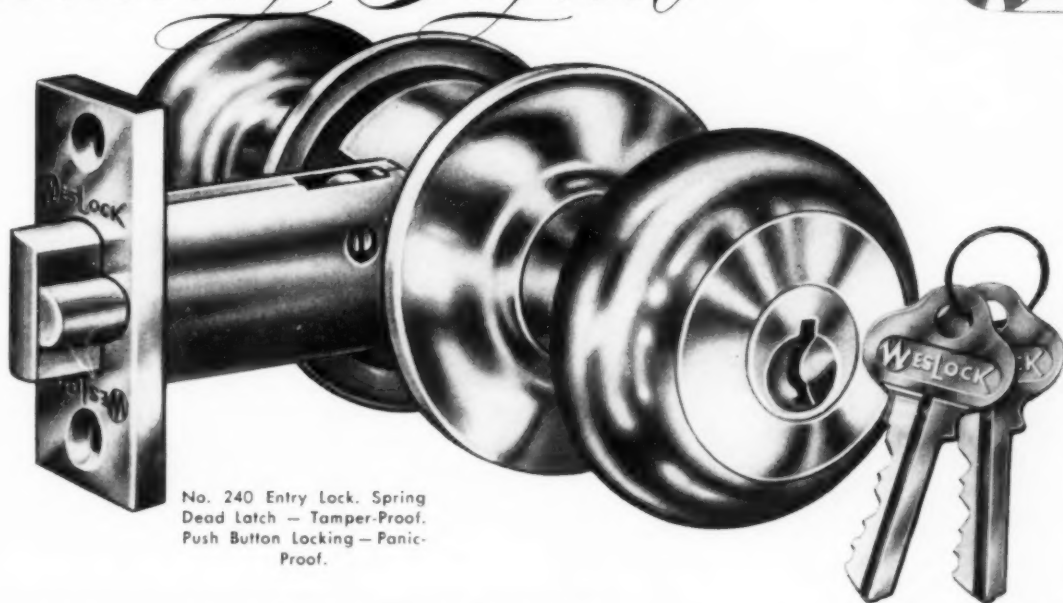
"Many older couples find themselves alone in homes that are too large, once the children have married. Selling the family house and using the proceeds toward the financing of a one-floor, modern structure often makes daily routine easier for the aged and non-ambulant.

"This is especially true of older people who sell their homes in crowded metropolitan areas, and seek quieter living quarters in suburban areas, easily accessible by automobile.

"Although demands for housing have been accelerated in all age groups since the war, with the building of more than seven million new homes in the last six years, the greatest number of home purchasers have been older people and veterans."

(Continued on page 314)

Smartly Styled



No. 240 Entry Lock. Spring
Dead Latch — Tamper-Proof.
Push Button Locking — Panic-
Proof.

...FOR EVERY DOOR IN THE HOUSE

ACCEPTANCE of WESLOCKS by architects, builders and lending institutions for use on many of the nation's largest building projects is evidence of the outstanding values the line offers. For example, all WESLOCKS

have an easy spring latch with a light spring for the bolt and heavy-tension knob return—a feature found only in the most expensive locks. Also, WESLOCKS have key-in-knob construction, 5-pin tumbler locking mechanism for maximum security, split spindle, independent knob operation, factory assembled units, self-aligning feature and a wide choice of handles, ornamental escutcheons and finishes.

Best of all, WESLOCKS are priced to meet the most modest budgets. Truly, they offer you the best hardware value at any price.

Send today for catalog.



Another WESLOCK installation.
Park Forest, Illinois. Contains a total of
3,010 apartments, 5,000 homes,
a shopping center and light industrial
area...
living units are WESLOCK equipped.
Architects: Loebl, Schlossman & Bennett
Chicago, Ill.
Builder: American Community Builders, Inc.
Chicago, Ill.
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Co., Chicago, Ill.

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P.O. Box 2261, Terminal Annex
Los Angeles 54, California



In N.B.C.'s newest TV studio it's AMPLEX SWIVELITES



Lighting layout designed by Messrs. S. Atwood and C.W. Bullock, N.B.C. . . . Swivelites supplied by Graybar Electric Company.

N.B.C. engineers in designing WNBC's latest TV studio for Dave Garroway's program, "Today", called for the last word in every telecasting detail . . . and that meant Amplex Swivelites for the all-important lighting effects. More than 200 Swivelites are employed. Besides the ceiling installation, other Swivelites are mounted on portable floor troughs for use as footlights.

Amplex Swivelites are today's first choice for effective and economical display lighting. Their special double-ball swivel provides positive, fingertip positioning. Cool, ventilated hoods prolong lamp life. Every Swivelite consists of a few basic units which are interchangeable with every other.

For top effectiveness, and to save time and costs in arranging new lighting effects, get the whole Amplex Swivelite story. Write Amplex Corporation, Dept.D-11, 111 Water St., Brooklyn 1, New York.

Complete line of
Swivelites for all
highlighting
needs



C11SH



C12SH-12



Focalite B-5



Hi-Hat 711G

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Sealed-Beam Reflector Lamps, Colorbeam Lamps, Spotlights and Floodlights, Industrial Infra-Red Heat Lamps, Vibration and Rough Service Lamps, Street Lighting Lamps, Traffic Signal Lamps, Incandescent Lamps, Fluorescent Tubes, Display Accessories.

THE RECORD REPORTS

WASHINGTON

(Continued from page 310)

\$40 Million Added to Funds For College Housing Loans

Title IV of the Housing Act of 1950 is proving a boon to many colleges and universities that could not meet their minimum housing requirements without it. President Truman has recently increased the loan authorization for fiscal 1953 from \$20 million to \$60 million.

Title IV authorized \$300 million for long-term low-interest rate loans to institutions of higher learning where local financing could not be obtained on a comparable basis. The interest charges run only 3.01 per cent overall.

As of last month, the Division of Community Facilities and Special Operations (HHFA) which handles the program through eight regional offices, had approved 34 loans covering construction estimated to cost \$32,675,000. It had reserved funds for another 41 projects; cost, \$37,479,150.

The extra \$40 million in funds was making it possible to reserve additional funds for, and approve, many applications which had previously been only under "active consideration."

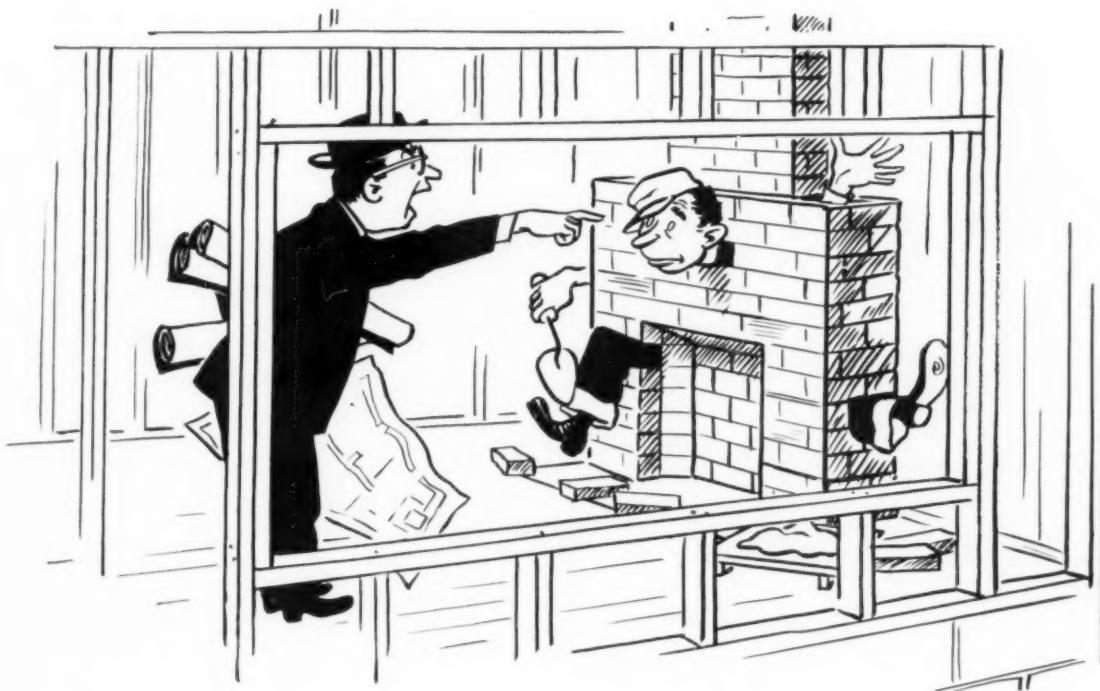
HHFA said the number of college students in the country had increased from 1.3 million in 1940 to 2.3 million in 1950. About one to 1.5 million of these lived away from home and needed housing at the college. The housing problem also has been complicated by the increased number of married students requiring apartment-type accommodations.

Plant and Equipment Outlays Expect to Hit \$27.5 Billion

Plant and equipment investments are on the increase with a total of \$27.5 billion expected in capital outlays this year. This total would represent a four per cent increase over 1951, itself a record year.

These findings are based on a joint survey made by the Securities and Exchange Commission and the Department of Commerce. Sounding out businessmen in all types of trade, these agencies found that second half expenditures will run true to predictions made in earlier reports.

(Continued on page 318)



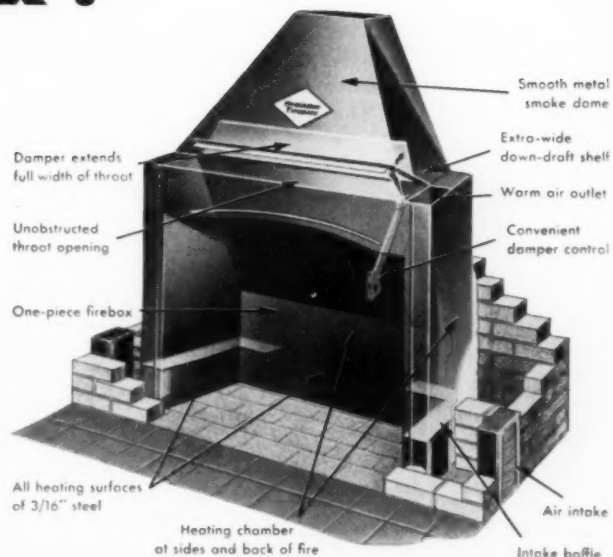
"Next time we'd better build it around a Heatilator unit!"

Specify a HEATILATOR UNIT and relax!

When you plan a fireplace, start with a Heatilator* unit and relax! Constant on-the-job supervision won't be necessary. You know in advance that every fireplace you design will work properly. Each unit comes complete from floor to chimney flue, simplifying construction. Scientific design protects you against rule-of-thumb building methods.

The Heatilator Fireplace puts no limit on mantel design or use of materials . . . gives you complete freedom of architectural expression. Only the decorative masonry is needed to complete the installation. You can be sure of smokeless, trouble-free operation and satisfied clients when you specify a Heatilator Fireplace unit. Heatilator, Inc. 3811 E. Brighton Ave., Syracuse 5, N. Y.

*Heatilator is the reg. trademark of Heatilator, Inc.



HEATILATOR FIREPLACE

U. S. PAT. OFF.



Beauty's 7-league boots

Colorful architectural concrete slabs in seven-foot module speeded this job!

Lightweight Architectural Concrete Slabs only 2" thick make short work of a long exterior in this modular design. The big, thin slabs each cover a 7' x 7' area for quick, easy erection. Fewer joints with these large units minimized time and cost of pointing, flashing, waterproofing. And a rich color contrast was built in . . . permanently . . . at the same time!

The modern design is highlighted by cream-colored slabs with translucent quartz aggregate that stand out smartly against blue steel paneling beneath the windows. Polished base slabs provide rich contrast in dark red. These are only a few of the virtually limitless color and texture effects possible when you use concrete facing slabs made with Atlas White Cement. Because it is a true and uniform white, it brings out the rich color values of both aggregates and pigments.

Atlas White Cement complies with ASTM and Federal Specifications. For further information, see SWEET's Catalog, Section 4E/7a and 13C/5, or write Atlas White Bureau, Universal Atlas Cement Company (United States Steel Corporation Subsidiary), 100 Park Ave., New York 17, N. Y.

Tidewater Power
Company building,
Wilmington, N. C.
Architect:
Charles C. Hartmann,
General Contractor:
C. M. Guest & Sons.
Precast slabs by
Mabie-Bell Co.
—all of Greensboro, N. C.



FOR BEAUTY AND UTILITY
ATLAS WHITE CEMENT
FOR TERRAZZO, PAINT, SLABS, STUCCO

"THEATRE GUILD ON THE AIR"—Sponsored by U. S. Steel Subsidiaries
Sunday Evenings—NBC Network

THE RECORD REPORTS

(Continued from page 314)

Manufacturers, however, said they plan to spend more money on expansions than they had been thinking about earlier. This increase will just about offset a lower level programming of mining and nonrail transportation companies, SEC and Commerce stated.

New High for Manufacturing

The 1952 capital outlays now expected by manufacturing concerns will run an estimated \$12.8 billion. This would be a new high and strike a point 15 per cent above 1951. But some industries, such as nonferrous metals and rubber, petroleum refining, iron and steel, signify expenditures increasing as much as 30 per cent over last year.

PHA Buys Trailers to Meet Military Housing Shortage

The housing pinch at most military installations continued despite much planning and talk about programming additional shelter.

The Public Housing Administration took competitive bids early last month on 600 family trailers. These were earmarked for four military locations: 250 to be placed at Twentynine Palms, Calif.; 50 at Bainbridge, Md.; 100 at Newport, R. I.; and 200 at Whidbey, Wash. The trailers were to be procured by PHA's central office in Washington with funds appropriated by Congress. The program is part of the program authorized under Title III of the Defense Housing and Community Facilities Act of 1951. The program is a continuing one with PHA expected to solicit more trailer bids later in the year.

Movable Housing: Objection

Ralph Kaul, special assistant to Housing Administrator Foley, in charge of the movable housing program, encountered some objections to the purchase of large house sections from the American Association of State Highway Officials.

Taking its cue from test run results already in from a number of portable housing manufacturers, the A.A.S.H.O. said several highway administrators saw in such a proposal "a potential danger in that some of the organizations participating in the prefabricated housing development were basing their house designs upon movable segments that were far in excess of maximum legal limitations for highway traffic."

The purpose of the HHFA program

(Continued on page 322)

ITSELF!

Portola Junior High School
El Cerrito, California, first
presented to architects and
engineers in Architectural Record.
Architects: Miller & Warnecke
Photographer: Julius Shulman



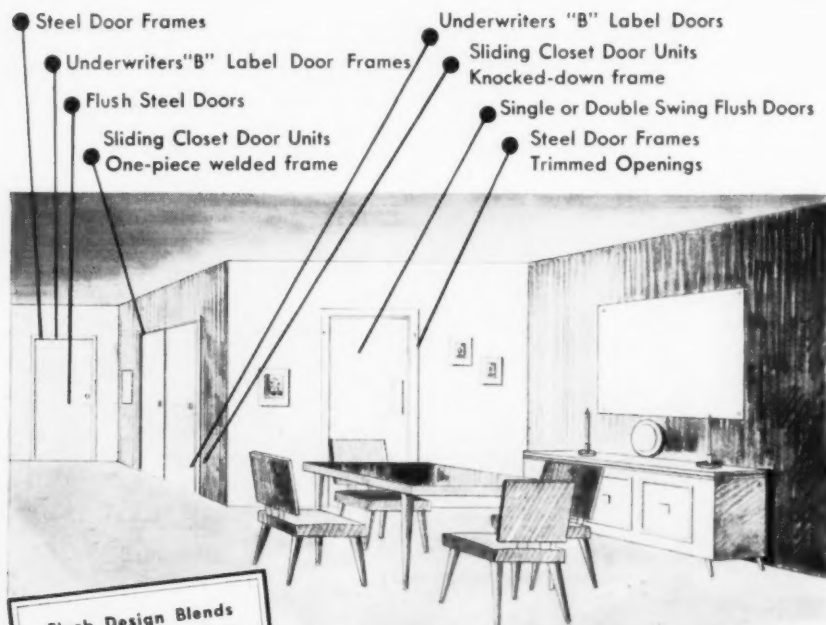
THE RECORD REPORTS

(Continued from page 318)

is to provide inexpensive housing units available for local demands created by the defense effort. Such movable or demountable housing, when its emergency need had been served, could be taken down, removed to another site and re-erected for use.

FHA Units Programmed

Private contractors, building with FHA-insured mortgage aid, are provid-



Flush Design Blends
with All Architecture

- Less Costly
- No Maintenance
- Easy to Match Any Color Scheme
- Won't Warp, Crack, Shrink or Burn
- Lasting Beauty
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All standard sizes available NOW.

Delaware Memorial Bridge, 3 miles south of Wilmington over the Delaware River, received the top award for bridges with spans of 400 ft or more in the American Institute of Steel Construction's 1951 competition for "the most beautiful bridges opened to traffic" in the United States in that year. Owner, State of Delaware; designer, Howard, Needles, Tammen & Bergendoff, New York City and Kansas City; consulting engineer, O. H. Ammann; consulting architect, A. Gordon Lorimer; fabricator, American Bridge Company.

ing their own answer to the military housing problem, particularly in the New England, New Jersey and New York area. More than 2000 units are going up, or have been planned and await only final clearance, in that area under the FHA-insured plan.

ON THE CALENDAR

Nor. 5-7: Design of Industrial Plants, tenth Ann Arbor Conference — University of Michigan, Ann Arbor, Mich.

Nor. 7-8: Annual Regional Conference, North Central States District, American Institute of Architects — Minneapolis.

Nor. 9-Dec. 7: 17th Ceramic National Exhibition, sponsored jointly by Syracuse Museum of Fine Arts, Onondaga Pottery Company of Syracuse and Ferro Corp. of Cleveland — Syracuse Museum of Fine Arts, Syracuse, N. Y.

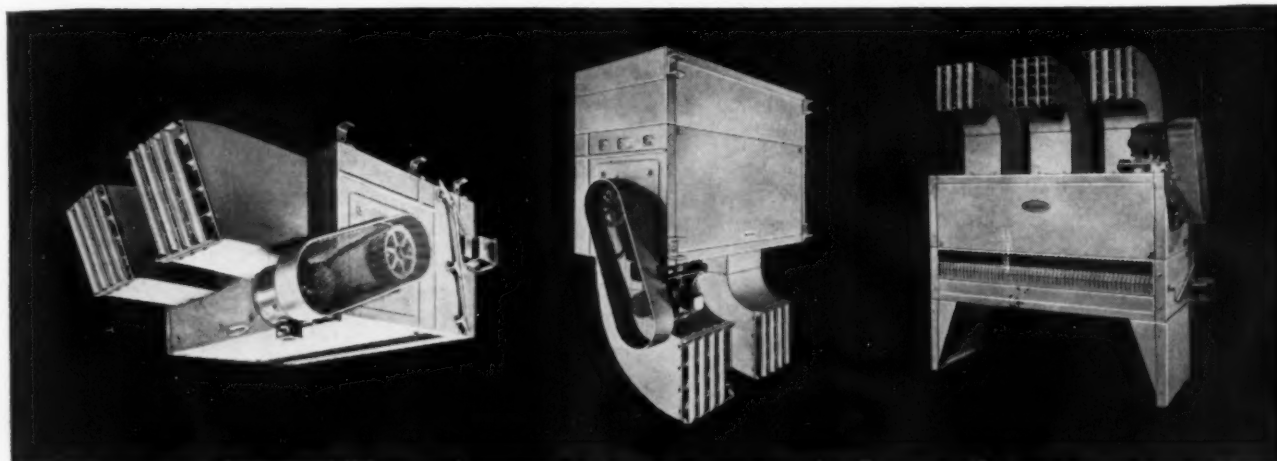
Nor. 13-15: Annual Convention, Florida Association of Architects — Tallahassee, Fla.

Nor. 18-20: Correlation conference on "Housing and Building in Hot-Humid

(Continued on page 324)

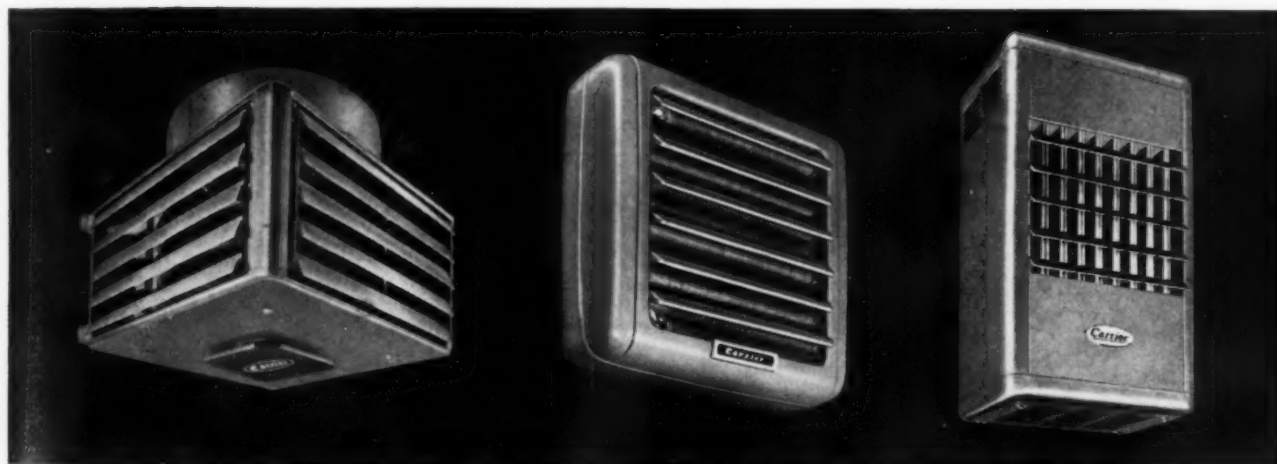
Low-cost heat for any size space

Specify Carrier to heat big buildings or small, efficiently, economically



CARRIER BLOWER-TYPE HEAT DIFFUSERS 46P, Q, R heat and ventilate large enclosed areas in factories, warehouses, hangars, garages, etc. Floor, wall or ceiling mounted. Sectionalized for easy handling. Quickly altered to fit changing needs. Multiple discharge outlets with adjustable lou-

vers deliver air in practically any direction. For use with steam or hot water. Available in 7 sizes, to 1,720,000 Btu's, they offer air-handling capacities from 4000 to 25,000 cfm. We have a catalog, "Carrier Heat Diffusers," that's yours for the asking.



CARRIER PROPELLER-FAN TYPE UNIT HEATERS. Four-way Directed-flow vertical model 46S gives quick heat from higher ceilings. Discharges in four directions, at any angle, in any quantity. Steam or hot water. 7 sizes: 82,000 to 500,000 Btu's. Horizontal model 46U directs warmed air from heights of 15 to 18 feet. Attractive, quiet, rugged. Single-row Aerofin heating coil with

widely spaced fins offers less air resistance, makes cleaning easier. Steam or hot water. 10 sizes: 21,000 to 200,000 Btu's. Gas-fired models 46T, shown, and 46TD (duct type) give clean, economical heat wherever gas is available. Both feature one-piece heat exchanger and combustion chamber of Aluminized Steel. AGA-approved for all types of gas. 7 sizes: 70,000 to 230,000 Btu's.



The Unit Heater Industry is proud of the recognition accorded it by the armed services and procurement departments of the United States Government. Proven in grueling use during World War II, unit heaters are now standard equipment in ships, plane hangars, living quarters, garrison buildings—wherever reliable, efficient heat is necessary for the completion of a task or the well-being of our fighting forces. On the home front, unit heaters serve equally important roles in industrial plants producing war material supplying the needs of the allied forces.

AIR CONDITIONING • REFRIGERATION • INDUSTRIAL HEATING

A note to Carrier Corporation, Syracuse 1, New York, will bring you a free, valuable, complete Industrial Heating Manual.

THE RECORD REPORTS

(Continued from page 322)

and Hot-Dry Climates," sponsored by Building Research Advisory Board — Washington, D. C.

Nov. 25: 34th Annual Meeting, American Standards Association — Waldorf-Astoria Hotel, New York City.

Dec. 1-6: Twentieth National Exposition of Power and Mechanical Engineering — Grand Central Palace, New York City.

(Continued on page 326)



Photo shows one of the two demonstration houses being built by the University of Illinois Small Homes Council in cooperation with the Division of Housing Research of the Housing and Home Finance Agency to aid in showing builders and contractors new research developments in house planning and construction. The houses will be identical in plan (sketch below omits breezeway and garage at right), the second will serve as a check on the first. Design is modular.

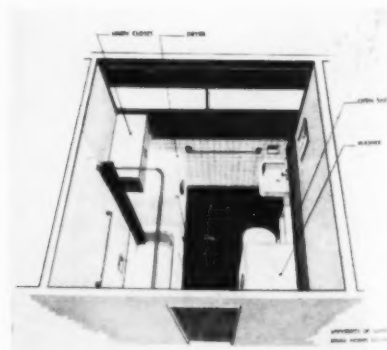
Ludowici Tile Roof on modern school



THE LUDOWICI white tile roof on this new school is unusually pleasing against the verdant green of the land or the warm colors of the seasons. It will last long and shelter many generations of children. It will require no maintenance and because it is tile, and imperishable, it has all the elements of protection. This beauty and economy is available for many kinds of roofs.

Tilton Grade School, Rochelle, Ill. Raymond A. Orput, Architect, Rockford, Ill.

Roof is laid with Ludowici light-weight smooth white interlocking shingle tiles.



The laundry-bath area, planned to center laundry facilities in the bedroom-bath area of the house "where most laundry is stored and used," is one feature of the demonstration houses. Equipment includes an electric dryer.

LUDOWICI-CELADON COMPANY

75 East Wacker Drive, Chicago 1, Illinois

NOTE: Full information is available to architects and builders about all of the colors, surfaces and patterns of Ludowici tile. We will be glad to furnish samples, details, specifications and architectural service on request.

New York 17, New York
565 Fifth Avenue
Washington 5, D. C.
740 15th Street, N. W.
Cleveland 20, Ohio
12734 Woodland Avenue
Dallas 9, Texas
4801 Lemmon Avenue

Bold framing for big glass areas

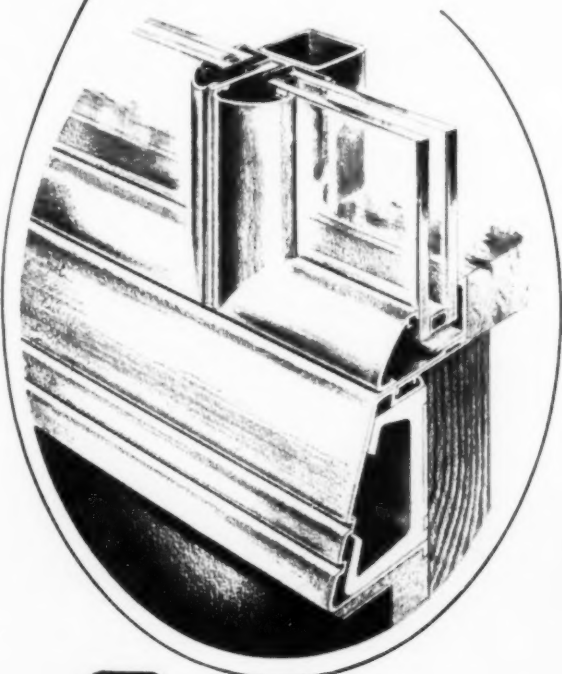
IN PITTCO STORE FRONT METAL



• • • • •

A BOLD SETTING in Pittco Store Front Metal focuses attention on this six-paneled window in the modern store front for Lincoln Savings & Loan Company, Cleveland, Ohio. Twindow, Pittsburgh's double-glozed unit, is set in Pittco No. 7 Sash with No. 282 Sill and No. 25-TC Division Bars. This arrangement is shown in detail at left below.

• • • • •



WHEN the architect wishes to set off large areas of glass with a bold, streamlined molding treatment, he'll find the members he needs in the De Luxe line of Pittco Store Front Metal. The clear, sharp profiles and rich, smooth finish of these members provide a most attractive framing and their rugged strength adequately supports the largest glass areas.

When working with both plate glass and Twindow, you can select Pittco settings that carry harmony of design throughout the entire job. The Pittco line is so extensive that it gives you the widest latitude in store front design.

Ask your Pittco representative for complete information. He will be pleased to supply you with details on all Pittco Store Front Metal members.

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STORE FRONT METAL



PAINTS • GLASS • CHEMICALS • BRUSHES • PLASTICS

PITTSBURGH PLATE GLASS COMPANY



save labor

build in more value

with FIAT

"package" showers



Illustrated: The CADET, a built-in Fiat Shower that does not look like steel, but becomes a beautiful part of the bathroom by concealing joint between wall and cabinet stiles.

See Sweets:

25c
FI Architectural

7b
FI Builders

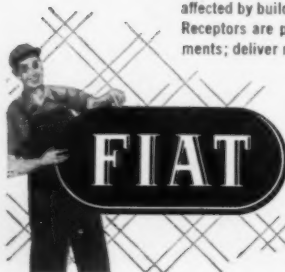
or write for catalog and prices.

■ 8% to 10% of the average home cost is in the plumbing contract—much of that goes into the bathroom! Now you can reduce that percentage and still deliver adequate and attractive bathing facilities by utilizing FIAT "package" showers. FIAT shower cabinets are designed to meet every architectural requirement, and always cost substantially less than built-on-the-job showers.

You save time, cost and confusion because a FIAT shower may be installed complete by a single tradesman! The plumber quickly assembles the FIAT cabinet, and fits it to the precast Terrazzo Receptor right while he is setting the drain. Shower head and valves (included in package) are connected at the same time. Sound simple? It really is!

MORE ARCHITECTS PREFER FIAT SHOWERS because:

all FIAT cabinets are rust-proof—always made of bonderized, galvanized steel; never affected by building settlement; don't depend on mortar joints for water-tightness; Terrazzo Receptors are permanently leakproof—eliminates lead pan and double drainage arrangements; deliver more quality for less money.



FIAT METAL MANUFACTURING COMPANY

Three Complete Plants—Economy • Convenience • Service

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New York

Franklin Park, Ill.
(Chicago suburb)

Los Angeles 63,
California

In Canada: Fiat Products are made by Porcelain and Metal Products, Ltd., Orillia, Ontario

THE RECORD REPORTS

(Continued from page 324)

Dec. 2-3: Preliminary meeting to discuss 1953 Building Research Advisory Board correlation conference on school construction costs, co-sponsored by the American Institute of Architects, the Office of Education of the Federal Security Agency and the United States Chamber of Commerce — Washington, D. C.

Dec. 5-Jan. 25: American Drawing, Watercolors and Prints 1952, a national competitive exhibition — Metropolitan Museum of Art, Fifth Ave. at 82nd St., New York City.

Dec. 17-Feb. 15: De Stijl: a large exhibition of painting, sculpture, architectural models and designs and furnishings executed by the followers of the De Stijl movement which originated in Holland in 1917 and still exerts influence — Museum of Modern Art, 11 W. 53rd St., New York City.

Jan. 18-22: 1953 Convention and Exposition, National Association of Home Builders — Conrad Hilton Hotel, Chicago.

Jan. 19-22: Plant Maintenance Show and Conference — Auditorium, Cleveland.

Jan. 21-Mar. 5: Built in U.S.A.: a survey of American architecture, both industrial and residential, since the Museum's 1944 exhibit — Museum of Modern Art, 11 W. 53rd St., New York City.

Jan. 26-29: 59th Annual Meeting, American Society of Heating and Ventilating Engineers — Conrad Hilton Hotel, Chicago.

(Continued on page 330)



Visiting Danish architects with Jerrold Loeb (second from right) of the Chicago architectural firm of Loeb, Schlossman and Bennett. The visitors (left to right) are Henning Meyer, Preben Hansen (see this issue, pages 202-204) and Otto Friis, all of Copenhagen



Above: Kindergarten room with tapered and cambered beams serving as primary framing members for roof. Below: Library and study room with glulam beams and purlins supporting roof. Bottom: Spacious gymnasium framed by glulam timber arches.



Classrooms, Libraries, Gymnasiums...

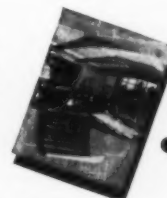
build them more economically with
Engineered Timber Construction

In construction of modern school buildings, engineered timber members of Timber Structures, Inc. perform two functions:

**Serve as primary structural framing, and
Provide impressive, friendly architectural theme.**

Especially adaptable are glulam beams and arches and trusses with glulam chords. These are formed of thoroughly seasoned lumber shaped to the designer's specifications and permanently bonded with glues as strong as the wood. Dimensionally stable and free from seasoning action, these timbers are low in upkeep as well as initial cost.

Outstanding examples of school construction and data on timber design are contained in the new booklet, "Modern Functional Schools". Get your copy from your nearest Timber Structures office, or fill in and mail the coupon.



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**When you're surrounded
by buildings**

Put eyes in your roof!

WASCOLITE SKYDOMES SOLVED A DAYLIGHTING PROBLEM in this Choctaw, Inc. warehouse. Side wall windows and other conventional daylighting methods were impossible because of the existing taller buildings on both sides. Architect Charles S. Peete of Memphis installed Wascolite Skydomes and flooded the entire working area with an abundance of glare-free overhead daylight *all day long* . . . without the need for supplementary lighting.

IT'S BRIGHT INSIDE WITH THE LIGHTS TURNED OFF—

37 foot candles of balanced daylight on the warehouse floor from Wascolite Skydomes compared to only 8 foot candles in the adjoining monitor type building. This Wascolite Skydome installation permitted maximum use of floor space, reduced construction, power and heating costs, and provided a permanent, trouble-free overhead daylighting system.



TURN DAYLIGHT INTO PAY LIGHT. Send blueprint and lighting requirements; Wasco's Daylight Engineers will prepare a Daylighting Study of your job showing size, type, number and spacing of Skydomes for correct balanced illumination. No charge or obligation. ©1952 Wasco Flashing Co.

EASILY INSTALLED IN MINUTES, prefabricated Wascolite Skydomes are engineered with "the dome that floats in its frame"—your assurance of a permanent, absolutely weather-tite installation that is maintenance-free, shatter-resistant, and unaffected by any change in temperature. Three basic shapes . . . 17 stock sizes—with clear colorless or white translucent light-diffusing acrylic domes.

**WASCOLITE
SKYDOMES**

Reg. Trade Mark

Wasco Flashing Co.,
87 Fawcett St.,
Cambridge 38, Mass.

THE RECORD REPORTS

(Continued from page 326)

Jan. 26-30: 11th International Heating and Ventilating Exposition — International Amphitheater, Chicago.

OFFICE NOTES

New Firms, Firm Changes

- Fred E. Betz and Robert H. Christian have formed an architectural partnership to be known as Betz and Christian, Architects, with offices at 102 W. Fifth St., Covington, Ky.

- The firm of Sullivan A. S. Paterno, Consulting Engineers, will henceforth be known as Mongitore & Moesel, with offices continuing at 101 Park Avenue. Mr. Mongitore and Mr. Moesel were associates of the late Mr. Paterno.

- Stanley R. Shenkman, R.A.I.C., has opened an office for the practice of architecture at 3777 Cote des Neiges Road, Montreal, Que.

New Addresses

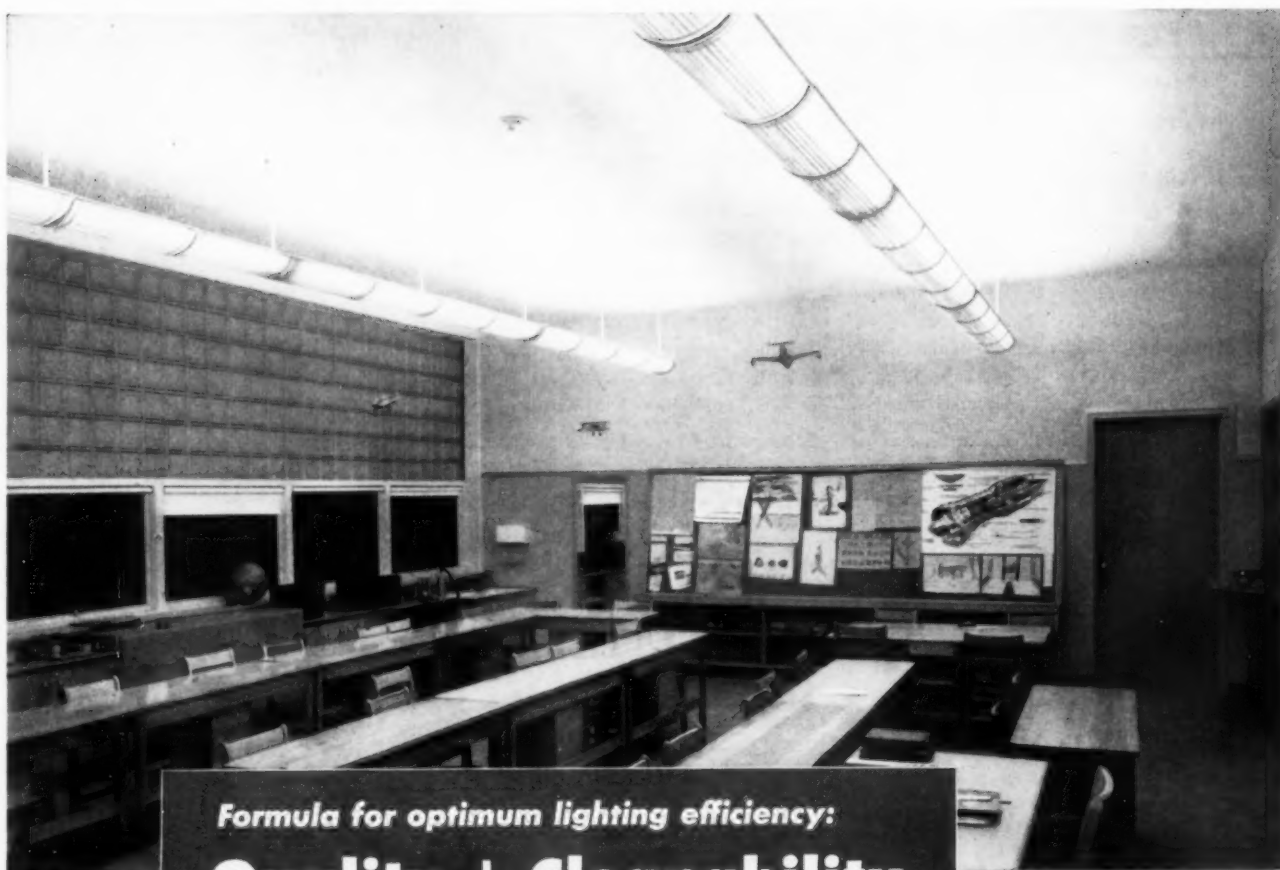
The following new addresses have been announced:

Breger & Salzman, Architects, 138 E. 36th St., New York City.

(Continued on page 334)

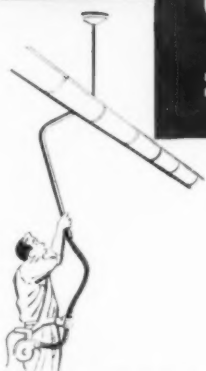


Chevalier in the French Legion of Honor is the new title of the American Institute of Architects' past president Ralph Walker of New York. Mr. Walker was honored by the French government "as a token of appreciation of your great talents and of gratitude for the constant friendship you have always shown towards my country," according to the announcement by French Ambassador Henri Bonnet



Formula for optimum lighting efficiency:

**Quality + Cleanability
= the Wakefield STAR**



Making Light Work of It with Wakefield Maintenance Equipment

By using this blower-type Wakefield maintenance equipment, the janitor can keep Stars clean by spending five minutes a day once every three weeks in each room. For yearly washing of reflectors, lamps and channels, the janitor removes the reflectors (they slide in and out like a drawer) and uses an ordinary detergent.

Note: the Wakefield maintenance equipment shown is available free to purchasers of Stars in specified quantities. We will gladly give you details.

There are good reasons why the Star is recognized as a superior classroom luminaire and why it is so often recommended for "Co-ordinated Classrooms" (as well as offices, drafting rooms and other areas where critical seeing tasks are performed).

QUALITY OF LIGHT. Luminous Plaskon reflector sends most of the light to the ceiling, to be distributed evenly all over the room. Result: a minimum of reflected glare. The reflector, which completely hides the lamps, has about the same brightness as the ceiling. Result: a minimum of direct glare.

CLEANABILITY. The Star is one of the most easily and completely cleanable of luminaires. See column at left.

RECENT TESTS of actual installations, using the interflexion method, indicate fewer Stars are required to light a room at a given level than had previously been thought necessary. We will be glad to send you the new coefficient of utilization tables.

The Star is equipped for pre-heat and rapid-start bipin and slimline lamps. See Sweet's architectural file. Or write to The F. W. Wakefield Brass Company, Vermilion, Ohio.

Pierce School
West Newton, Mass.
Room size: 23' x 36'
2 rows of four 4' units
2-75 W standard warm white
fluorescent lamps per unit.
Footcandles: 32 average.

Wakefield Over-ALL Lighting



THE GRENADE



THE PACEMAKER



THE COMMODORE



THE STAR



THE WAKEFIELD CEILING



THE RECORD REPORTS

(Continued from page 330)

Leon Brown, A.I.A., Thomas W. D. Wright, Architects, The Wire Building, Suite B, 1000 Vermont Ave. N. W., Washington 5, D. C.

W. M. Brown, 8 Birchwood Drive, Armdale Postoffice, Halifax, Nova Scotia, Canada.

James R. Edmunds Jr., Architects, 1025 St. Paul St., Baltimore 2, Md.

Meyer Katzman, A.I.A., Architect, 160 E. 56th St., New York City.

COMPETITIONS

• The Town Council of Turku (Aabo) in Finland has invited entries of a layout plan for the island of Ruissalo and other neighboring islands belonging to the town. Details of the competition, which has been approved by the International Union of Architects, can be obtained from the Town Council of Turku.

• The Indianapolis Home Show has announced its 1953 architectural competition, open to any architect, architectural designer, draftsman or student who submits a design and plot plan for a one-story house by December 1. Six prizes will be awarded, of \$500, \$250, \$100, \$75, \$50 and \$25 each.

Details and entry blanks are available from Edward D. Pierre, F.A.I.A., Architectural Advisor, c/o J. F. Cantwell, Managing Director, Indianapolis Home Show, Inc., 1456 North Delaware Street, Indianapolis 2, Ind.

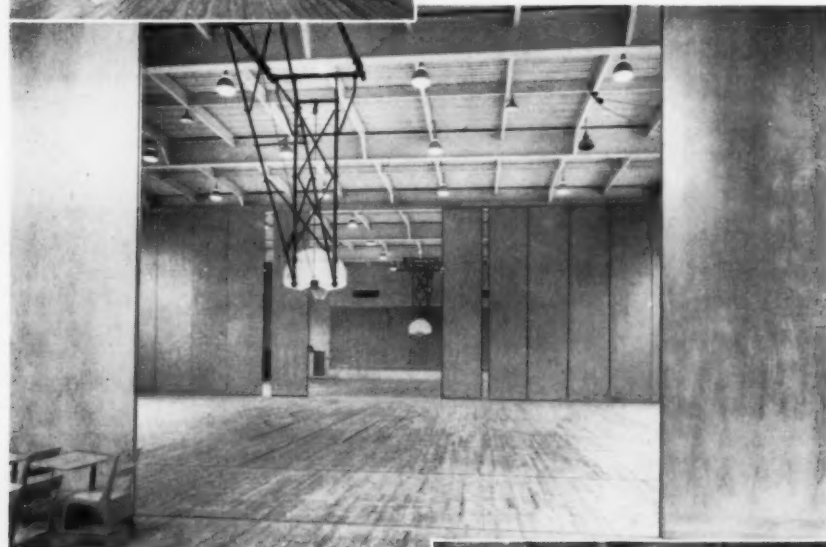
• The magazine *Living for Young Homemakers* and the Akron Art Institute are conducting a competition for young designers in the home furnishings field. The deadline for entries was Nov. 1.

• The James F. Lincoln Arc Welding Foundation of Cleveland, sponsor of the Mechanical Design Award Program, has announced prizes totaling \$30,000. The awards will be made for "the best papers describing the mechanical design" (Continued on page 338)

At the **NEW CAMP CURTIN Jr. HIGH SCHOOL** Harrisburg, Pennsylvania



Fairhurst
T.M. Reg.
"Unitfold"®
folding walls



The most advanced ideas in school design are incorporated in this modern building. To meet the ever-present need for space adaptability and usefulness, the gymnasium has 3 Unitfold folding walls. Quick, easy subdivision is available at these points by simple manual operation. No mechanical power required

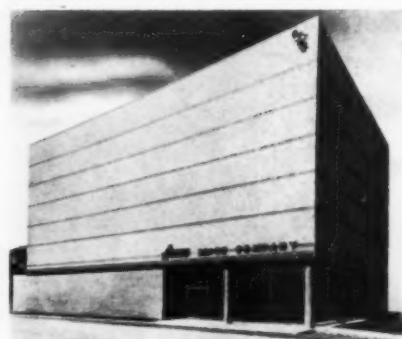
- 1 Gym—stage (proscenium arch)—47' x 14'.
- 2 Across center of gym—91' x 24'6".
- 3 Main gym—auxiliary gym—47' x 17'.

Noteworthy features: Large area... all weight of Unitfold walls is floor-supported... no need for special overhead steel...



3 Architects: LAWRIE & GREEN

Unitfold does not interfere with steel web-bracing at ceiling-wall juncture.



Acme Brick Company has opened its new general offices at Fort Worth, Tex., in a building which puts the company's product on view inside and out. Above: columns are of specially-molded brick; below: exposed brick is used for interior walls of offices. Architects were Preston M. Geren, Joseph R. Pelich and W. G. Clarkson & Company, all of Fort Worth



John T. Fairhurst Co., Inc.

45 West 45th Street

New York 19, N. Y.

The test of **LEADERSHIP**



Essex House

Architect
Merritt Harrison

Builders
J. L. Simmons
Company, Inc.

The supplier who works consistently over the years with the leaders among architects is himself a leader—and it is the leader upon whom you can depend!

Aetna leadership is backed by over fifty years of pioneering in the hollow metal field, during which period its products have been installed in the country's largest and most important building projects.

So, for quality-to-specifications and delivery on schedule, look to Aetna engineering service and production facilities when planning for steel doors, frames and other hollow metal products!

AETNA STEEL PRODUCTS CORPORATION

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MANUFACTURERS OF STANDARDIZED STEEL DOORS AND FRAMES FOR HOUSING UNITS.

FABRICATORS OF QUALITY HOLLOW METAL PRODUCTS FOR SCHOOLS, HOSPITALS, OFFICE BUILDINGS, ETC.

THE RECORD REPORTS

(Continued from page 334)

and construction of any type of machine or machine component which is designed for are welded steel fabrication," and anyone who has helped design, plan or manufacture such a machine is eligible. Construction machinery is among 18 categories in which entries are sought.

The final date for submissions is July 27, 1953. Information on contest rules can be obtained from the Lincoln Foundation, Cleveland 17, Ohio.

EXHIBITIONS

- Design of consumer products is the theme of a new exhibition at Boston's Institute of Contemporary Design. The exhibit, which will travel throughout the country after the current showing ends November 26, is a presentation of the design programs of individual companies participating in the exhibit.

The entire exhibition is mounted on tubular frames specially built by the Reynolds Metal Company, and was designed by Richard Filipowski of Harvard.

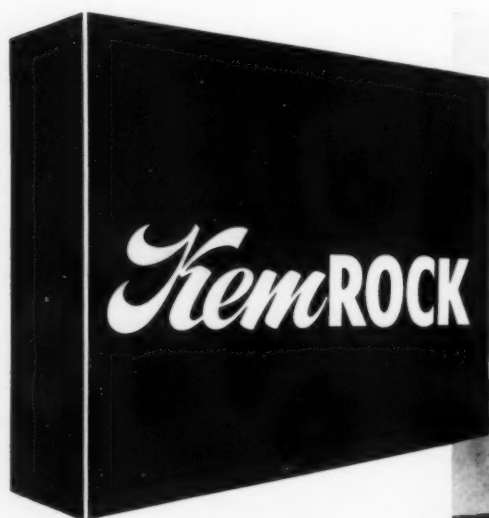
The exhibit is intended to answer some of the questions which have arisen since industrial design has become an important field — how an idea gets from a designer's head into mass production, who accepts designs for production, how designers know what to design and many others.

Companies participating in the exhibition are: Reed and Barton, Sherrill, Cambridge Tile, Cheney Brother, Elgin Watch, Fostoria Glass, Plax Corporation (plastic containers), Reynolds Metal (aluminum), Hudson Motor Car and Lightolier (lighting fixtures).

- Major improvements in power equipment will be exhibited at the 20th National Exposition of Power and Mechanical Engineering. The exhibition will be held in Grand Central Palace, New York, from December 1 to 6.

- The Plant Maintenance Show, sponsored by Clapp & Poliak, Inc., has been scheduled for January 19 to 22, and will be held in the Public Auditorium of Cleveland. Registration cards are available from the corporation, 341 Madison Avenue, New York 17.

The Plant Maintenance Conference, also sponsored by Clapp & Poliak, will be held the first three days of the exhibition.



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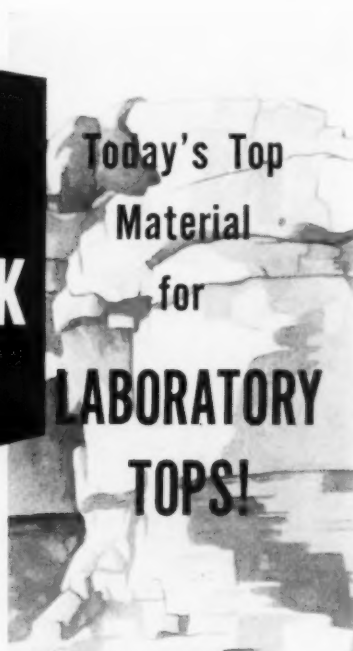
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Wall Sink No. 210

End Sink No. 217



ADDENDA

- The architectural credit for the Century Electric Company building in St. Louis (ARCHITECTURAL RECORD, September 1952, pages 136-138) should have read: William B. Ittner, Inc., L. Baylor Pendleton, Associate Architects.

- Architects for the Eisenhower Memorial Museum in Abilene, Kas., (ARCHITECTURAL RECORD, August 1952, page 22) are Cayton & Murray of Abilene; Welton Becket Associates of Los Angeles are supervisory architects.

- Howard P. Hess, Architect, of Los Angeles, was the architect for the AirResearch Manufacturing Company plant in Phoenix, Ariz. (ARCHITECTURAL RECORD, August 1952, page 308).

(More news on page 344)



for modern SCHOOLS

Architects, Raymond A. Orput and Associates, Rockford, Illinois



LITEGREEN CHALK BOARDS

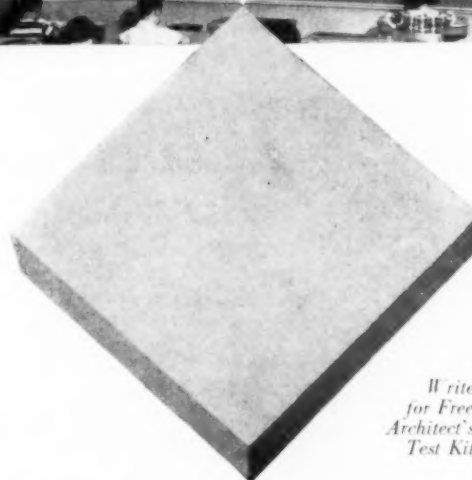
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For details see Sweet's 1952 Architectural File



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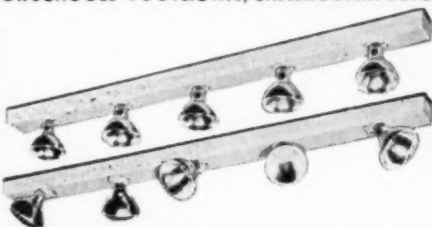
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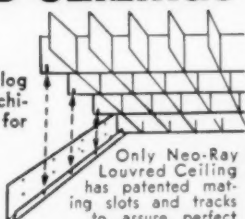
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THE RECORD REPORTS

(Continued from page 26)

31,000 sq ft for airline offices and ticket counters, 20,000 ft for shops and concessions, a 500 by 50 ft lobby and waiting room, tenant administrative offices, utility areas and service rooms. The mezzanine will feature a restaurant and will afford an unobstructed view of the field through large windows. Space will also be provided for expansion of offices and other facilities when required.



The Port of New York Authority

STAIRWAYS, CORRIDORS AND GENERAL SERVICE AREAS HARDENED WITH GREEN AND NATURAL

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Above: aerial view shows structural steel framework for new terminal building. Construction permits easy conversion of structure at later date if necessary. Below: main entrance to building. Actual structure will differ slightly in some details from this early rendering of the project.

The Port of New York Authority



Observation Deck Enclosed

On the field side of the main lobby, above the airline ticket counters, a glass-enclosed observation deck about 500 ft in length will afford travelers and visitors a view of field operations. Two 575 ft finger arcades will provide covered access to aircraft loading positions. An open observation deck will be included atop the western arcade and will connect with the enclosed deck in the main structure.

The terminal area will have 16 gate positions, expandable to 22. Ramp and taxiways will comprise 165,760 yds of paved area and an automobile parking lot will accommodate from 700 to 750 cars. The exterior of the building is to be finished with face brick.



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Secrets of designing drop, folding, and sliding doors. How to attach furniture legs to rails with ten different joints. How to build 25 types of furniture drawers, shown in plan views and side sections.

Then there's a big section on upholstery work. Here you'll see how frames are built, how springs are attached, how fabrics like cotton, muslin, canvas, and foam rubber are fitted and fastened to chair seats and backs. All this is presented in easy, step-by-step fashion, exactly as the work is performed in a master craftsman's workshop.

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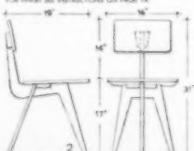
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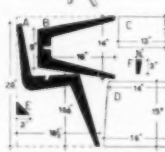


CHAIR

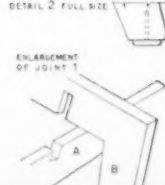
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PONENT PARTS OF THE CHAIR AS INDICATED IN
THE SIDE DRAWING, NOTE "C" AND "D" REQUIRE
THIN PLYS EACH.
SEE GENERAL INSTRUCTIONS ON PAGE 14.
AFTER THE MATERIAL IS READY TO BE ASSEMBLED,
PROCEED TO JOIN AS FOLLOWS:
(1) "A" BOLT 1/2" (2) "A" NUTS 1/2" (3) "A" WASH-
ER 1/2" (4) "A" SCREWS 1/2" (5) "A" SCREWS 1/2" TO
COMPLETE YOUR CHAIR.
FOR MORE SEE INSTRUCTIONS ON PAGE 14.



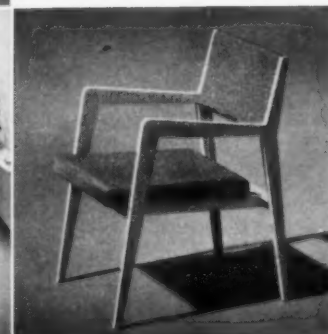
ASSEMBLY



DETAIL 2 FULL SIZE



ENLARGEMENT OF JOINT 1



THE RECORD REPORTS

(Continued from page 338)

YALE STUDENTS PUBLISH ARCHITECTURAL MAGAZINE

Perspecta: The Yale Architectural Journal, a magazine edited and published by students in Yale's Schools of Architecture and Design, made its debut with a "Summer 1952" issue. The magazine will appear "at intervals" and cop-

ies will be available either singly or through subscription for three issues.

In a preface to the initial issue, George Howe, chairman of Yale's Department of Architecture, has commented on the origin of the magazine in terms of the need for students to "create a medium of expression for themselves through which the potentialities of contemporary



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expression in architecture might be explored without programmatic implications."

Describing the program outlined for the journal, Mr. Howe further commented: "This first number of *Perspecta* is but a beginning. It proposes to establish the arguments that revolve around the axis of contemporary architecture on a broader turntable, encompassing the past as well as the present and extendable to the future. To all architects, teachers, students, *Perspecta* offers a place on the merry-go-round."

The contents of the first issue encompass theory, practice and history. They include articles by Mr. Howe, Henry-Russell Hitchcock, Vincent Scully, Jr., Fello Atkinson and Henry Reed, Jr. on subjects ranging from a comparative study of the evolution of Wright, Mies and Le Corbusier to a discussion of Michelangelo's fortification drawings.

A section on "new directions" in building includes examples of the work of Paul Rudolph, Philip Johnson and Buckminster Fuller. Mr. Rudolph and Mr. Fuller contribute each an essay on his own work.

The issue also includes a pictorial presentation of Frank Lloyd Wright's First Unitarian Church building in Madison, Wis. None of the work included in the issue is by students.

Editors of the magazine include: editor, Norman Carver; associate editor, Joan Willson; assistant editors, Charles Brickbauer, Robert Duemling; design, Norman Ives; circulation and business manager, James Gibans. A Faculty Advisory Board includes Dean Charles Sawyer, George Howe, Alvin Eisenman and Henry-Russell Hitchcock.

(Continued on page 346)

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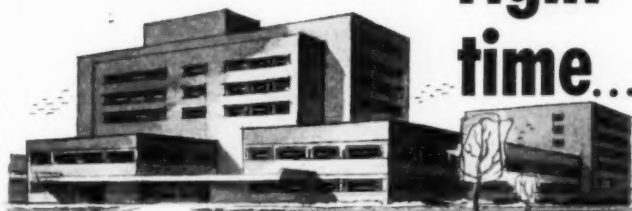


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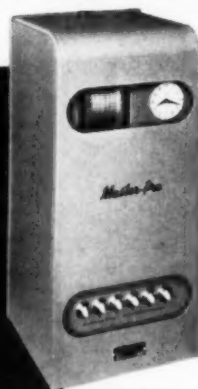
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AMERICAN ARCHITECTS WIN BELGIAN PRIZE

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The competition was organized and sponsored by the Belgo-Luxembourg

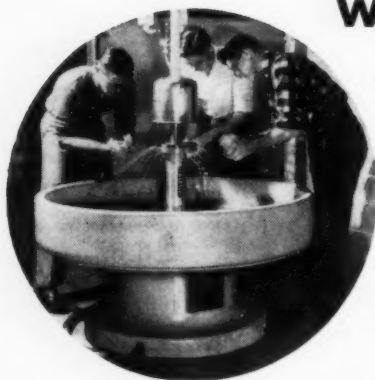
Institute for Steel Structures, which received hundreds of entries from all parts of the world. First prize in the contest was won by Beringer & Pampaluchi of Zurich, Switzerland, for a fabrication shop.

The Giffels & Vallet entry was a grandstand for the Michigan Racing Association in Detroit. Built in 1950,

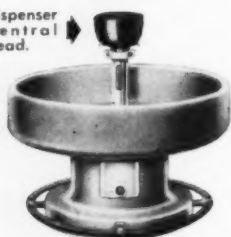


Prize-winning grandstand with suspended press box at left of photo

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The grandstand includes a ground floor — with betting facilities for standees, concession stands, rest rooms and a hospital — and two mezzanines. The first mezzanine houses general offices, totalizer equipment, calculating rooms and storage space for concessionaires. The second mezzanine includes betting facilities for balcony patrons, rest rooms, concession stands and a dining room.

Balcony seating is in two zones, each 78 ft deep and 354 ft 8 in. long. The rear zone is raised 10 ft above the plane of the lower zone so that access is provided from the lower zone to second mezzanine betting facilities.

Suspended Press Box

The judges' and stewards' quarters, the press room and photo-finish camera facilities are housed in an enclosed area suspended from the cantilevered roof structure. Typical cantilever roof trusses are 174 ft long, with a 104 ft anchor span and a cantilever section of 70 ft. The roof is extended 5 ft beyond the ends of the trusses by outrigger rafters in the purlin depth. For night racing, three floodlight towers are provided, extending 23 ft above the main roof.

The competition award carried a stipend of 1500 Belgian francs, which was donated by Giffels and Vallet to the Belgium Red Cross.

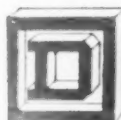
(Continued on page 343)

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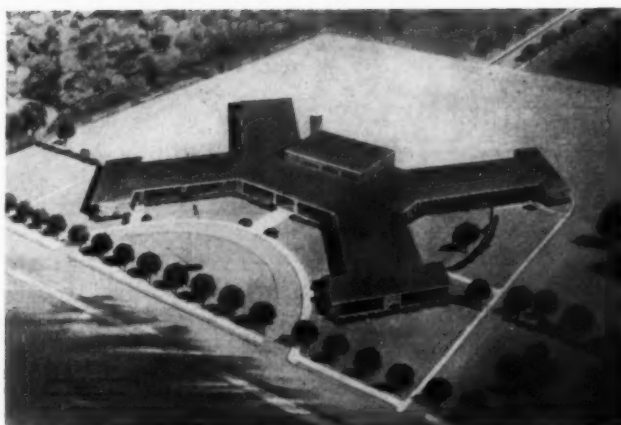
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PERIODICAL REPORT

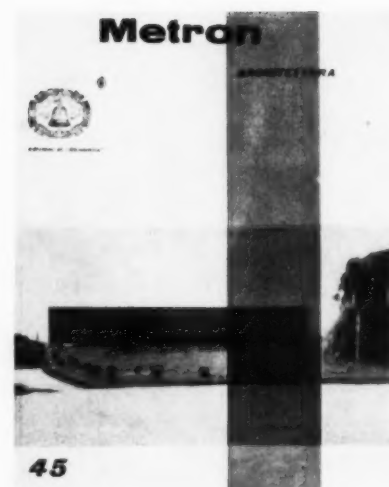
Metron

June 1952

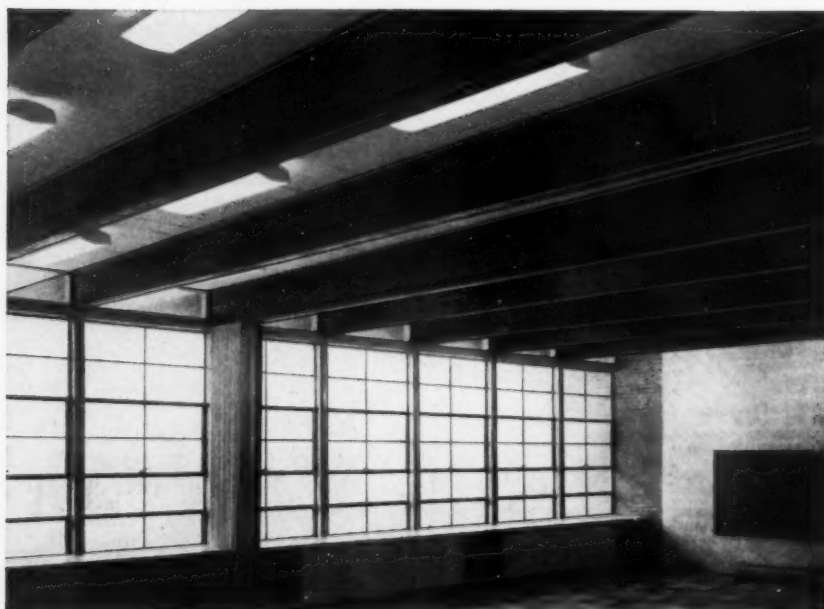
• In this issue of the Italian review, J. J. P. Oud, who has been charged with having changed direction to the extent of abandoning the tenets of his own ear-

lier architectural practice, defends himself against these charges and attempts to define his position regarding architectural work today.

Of the three essays which comprise Oud's article, one is a reply to questions raised in a presentation of the architect's own Shell I-B-M Building at the Hague, which appeared in ARCHITECTURAL RECORD, December 1946, pages 80-81.



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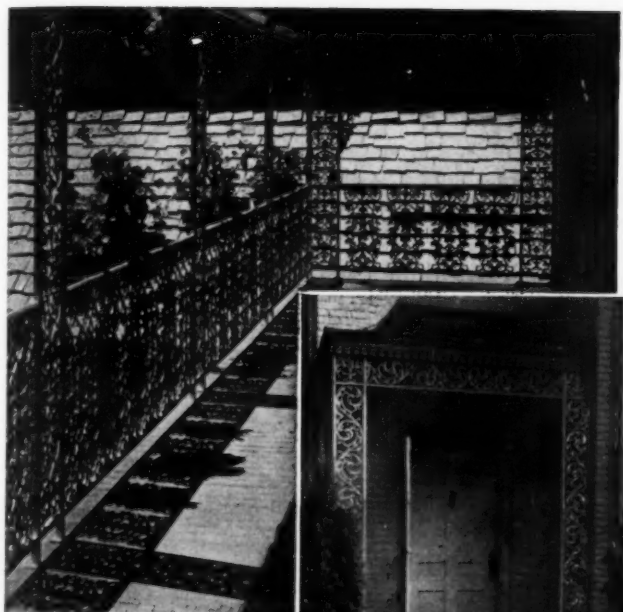
The questions posed in the Record's article mainly concerned the employment of decorative elements in the building; the general problem of the meaning and function of decoration in design; the relation of both the particular employment and the general problem to Oud's own earlier work; and, finally, the building itself in terms of the basic approach to both planning and design. Describing the building, the Record commented: "Its major forms seem to be not enascent from the problem but are recognizable as repertory out of the architect's notebook." In terms of this, the Record queried: "What did Oud find lacking in his earlier approaches? In this instance was he unconsciously slipping back into an easily popular answer or was he seeking something new?"

The problem underlying all of this, the Record pointed out, was much wider than the question of Mr. Oud in particular. The whole problem of the nature and function of decoration in design, the manner of its evolution and integration in particular structures, the validity of a "purely functional" approach — all these were questions which had to be answered and which the Shell Building posed particularly.

In his reply, Mr. Oud explains the differences between his earlier housing for workers and the Shell Building in terms of the difference in function between the various building types: "A house has a different function from that of an office building, a town-hall or a church."

Continuing, Mr. Oud commented: "Architecture old or new must awaken an emotion; it must transfer the esthetic vision from one man (the architect) to

(Continued on page 350)



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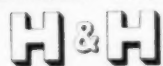
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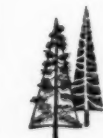


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THE RECORD REPORTS

(Continued from page 348)

another (the onlooker) . . . While contemporary architecture must be based on rational principles its secret is still to be found, today as it was yesterday, in man's soul.

"The Shell Building is an effort to rediscover architecture as an expression of the soul. Consequently it is possible to find in it many elements that for a

succession of centuries have shown themselves to carry psychological implications and intuitions of universal understanding."

In another of his three essays, Mr. Oud deals with the problems of collaboratively planned buildings, which in his opinion cannot attain the spiritual quality, clarity and purity of individual

work. The third essay deals with the state of architecture in England, where it is, Oud feels, "less experimental, less dogmatic, less theoretical than in other countries" and "has come to mean something to the British people."

• In the same issue of the magazine is a six-page presentation of the work of Hugh Stubbins, with an article by Henry G. Grimball and photographs in both color and black-and-white of the architect's residential design. Stubbins' work is termed "significant of the actual stage of development of modern American architecture, a stage in which the younger generation of architects has assimilated the thought of the pioneers and now expresses its own personality."

The article describes Stubbins' work as having "a tendency towards introspection and analysis," and says further that "he never applies a typical solution indiscriminately because he is convinced that each problem carries its particular solution. And very often in his work we find a truly original answer to a particular problem."

L'Architecture Francaise

Nos. 123-124, 125-126

• In the first of these two numbers, the French review devotes its entire issue to the work of Frank Lloyd Wright. The contents include an introduction by J. Morey and a message to France, an essay on Broadacre City, and an article on organic architecture in relation to modern architecture (reprinted from *ARCHITECTURAL RECORD*, May 1952, pages 148-154), all by Wright himself. Examples of the architect's domestic architecture over the past 50 years are shown in photographs, sketches and plans. Other buildings in the presentation include the St. Mark skyscraper project, a store in San Francisco, the Guggenheim Museum project, the Florida Southern College library and chapel, the Aldemann Laundry in Milwaukee, the Johnson Wax Company, office and research tower in Racine, Wis., and Taliesin West.

• The following issue of the magazine is devoted entirely to "collective housing," including both individual apartment buildings and groups of buildings. The examples are drawn from France, Switzerland, Germany, Italy, England, North Africa and the United States.

(Continued on page 352)



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THE RECORD REPORTS

(Continued from page 350)

The Architectural Review

September 1952

• Featured in the English periodical this month are extracts from the memoirs of one of the acknowledged pioneers of modern architecture and design, Henry Van de Velde. The period covered in the selections included here is 1891-1901, a period which saw the be-

ginning of Van de Velde's career, his first great successes and the formulation of the esthetic credo which guided his work for more than 50 years of active practice as architect and designer. The extracts are prefaced with an introduction by P. Morton Shand, who also translated them from the original French.

The *Review* commented on its publi-



The Architectural Review's Sept. cover

cation of the memoirs: "The place of Henry Van de Velde, who will be 90 next year, among the greatest pioneers of the modern movement has long been established beyond dispute. . . . In these extracts from his forthcoming memoirs (translated by P. Morton Shand) Van de Velde himself fills in the details of his life and career during the nineties. Among the things he describes are the overwhelming experience of seeing the hundreds of Van Gogh's paintings then in the possession of the painter's sister-in-law, his meeting with Bing and Meier-Graefe and the Paris exhibition which followed it, the building of his house 'Bloemenwerf,' and the Dresden exhibition of 1897." Photographs and drawings of Van de Velde's work during the period illustrate the memoirs.

• Among the buildings presented in this issue of the magazine is the Arts Center of the University of Arkansas, for which Edward D. Stone was architect.

Architectural Design

August 1952, September 1952

• The first of these two issues of the English periodical features a pictorial survey of architecture in the new state of Israel. The presentation was compiled by the well-known English architect F. R. S. Yorke, who also contributes an introduction. Many of the photographs were taken by Mr. Yorke during the course of a tour of the country. Included in the survey are hospitals, collective settlements, office buildings and a hotel.

• "Voice of the Student," a feature begun with the previous issue of the maga-

(Continued on page 354)



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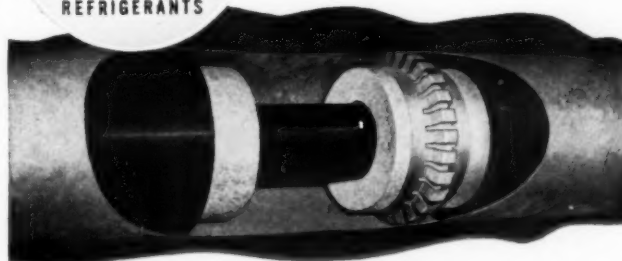
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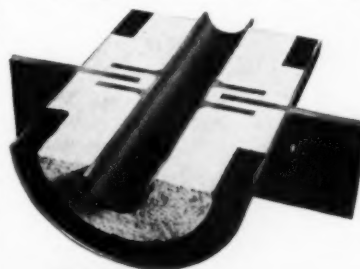


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THE RECORD REPORTS

(Continued from page 352)

zine, is continued in the August and September issues. Each month two pages are to be at the disposal of architectural schools in Great Britain, with the students themselves being entirely responsible for the selection of material included. Liverpool School of Architecture began the series, continued in the

August issue by the Welsh School of Architecture, Cardiff; in the September issue by the Royal West of England School, Bristol.

• Skin structure is the subject of a 15-page article by Felix Samuely in the September issue.

There has been steady progress in the last few decades in the development of more efficient structural systems for buildings. Modern building materials are being fabricated in structural members, which, by virtue of their shape or method of assembly, will reduce to a great extent the dead load of the structure. But going even further than this is the trend, more prominent abroad than in the United States, toward three dimensional frameworks in which the outer skin of the structure itself contributes to the strength of the building and may lighten and simplify the construction.

In his article Samuely makes reference to a number of European industrial buildings in which this principle is amply demonstrated. He points out that the first structures in this category were storage tanks and silos. He then goes into special types of roof bracing, designs for latticed construction behind glazing, possible shapes for skin roofs, latticed roof construction, concrete shell structures, cooling towers, chimneys and prestressed concrete tanks.

Domus

July-August 1952

• Several features in this issue of the Italian magazine directly concern themselves with matters American. Of these, perhaps the most self-conscious, in the sense that it is aimed both at Italians (as an American document) and at Americans (as a documentation of some Italian impressions of our architecture) is a piece entitled "Fairy Story From America." This country, the magazine comments "as in a fairy story or a legend, has some fantastic qualities quite independent from the news and impressions — positive or negative — and we have our own opinion and our own image of it. . . . In these few pages is an American story told by its latest architectural adventures. . . ."

The "architectural adventures" discussed and depicted in the article include the United Nations Secretariat, Lever House and two buildings in Palm Springs, a hospital and an elementary school, both by Clark and Frey. The magazine adds its own opinion to the growing bulk of material pro and con concerning the U. N. building and Lever House, both individually and the one vs. the other. *Domus'* comments in this respect are as follows: "The building, the monument of the United Nations, is

(Continued on page 356)

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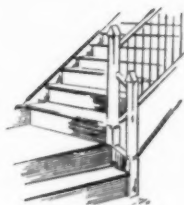
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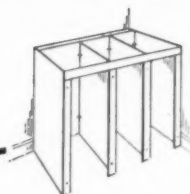
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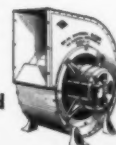
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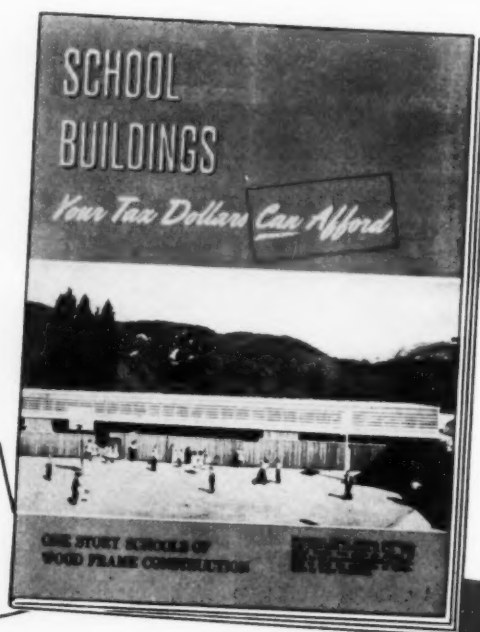
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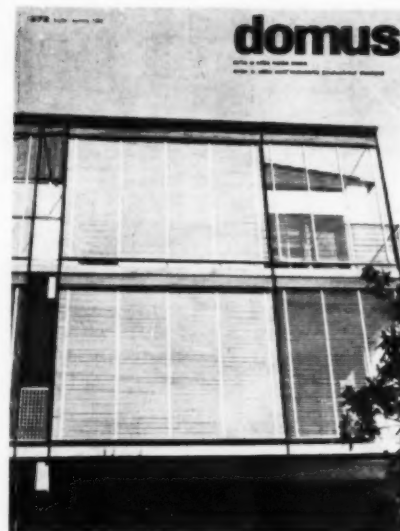
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position, it never ends, probably it is not yet architecture, it is only an architectural product. Beware the two buildings somebody might say are similar, [but] are really diametrically opposite."

• "Minor New York," another feature in this issue, is a series of assorted snapshots of lesser-noticed aspects of the city: alleys, fire escapes, signboard towers. Commenting on the city, the magazine says: "This city is still a controversial city: there are its believers, its prophets and its detractors and its enemies. Its gigantic toothed skyline is for the newcomer the face of the new world, an ironic or moving sight. The crowd in front of it keeps still and silent, the old world celebrities try to get ready for the encounter: at its feet they have to offer a curse, an epigram or a paradox, but a definition is due. People have their definition ready before seeing it, or without ever seeing it — we are all pro or con. We like it."

• Still more Americana in the same issue: Bernard Rudofsky contributes an article on gardens, illustrated with photographs of his "garden house" on Long Island. Presentations of the New York showroom of Estelle and Edwin Laverne (with designs exhibited there) and the redesigned (by Philip Johnson) penthouse for the Museum of Modern Art are also included, together with brief illustrated articles on the work of the Japanese-American sculptor Ruth Asawa and the latest Museum of Modern Art-Merchandise Mart "Good Design" show.

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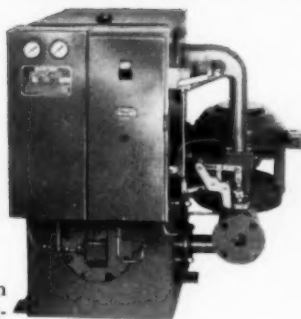
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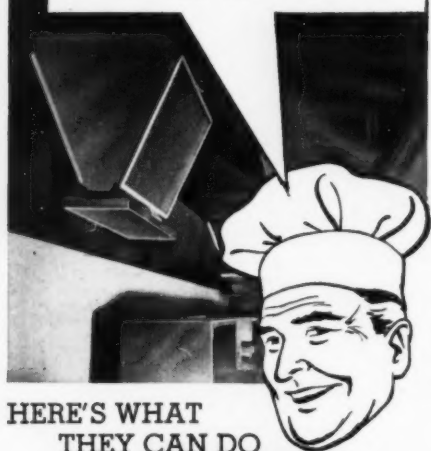
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REQUIRED READING

(Continued from page 48)

a superficial understanding, but rather for "more willingness to admit that our present techniques of analysis, both academic and commercial, have revealed only a distorted and inaccurate picture of the life in industrial civilization that we actually lead." W. C.

SWISS ARCHITECTURE

Schweizer Architektur, Ein Überblick über das schweizerische Bauschaffen der Gegenwart. By Hans Volkart. Otto Maier, Ravensburg, Germany, 1951. 8¾ by 11¾ in. 224 pp., illus. (Text in German)

Professor Hans Volkart, University of Technology, Stuttgart, has given here a good idea of what is going on architecturally in Switzerland today. In showing the progress of contemporary Swiss building, he has presented a cross section of dwellings, settlements, apartment houses, schools, churches, hospitals, office buildings, factories and public buildings. Emphasizing a broad scope in his choice of subject matter, the author has not only dealt with modern work, but shows the great variety of style in the contemporary building in Switzerland. Basically a picture book, it contains 598 illustrations, 334 of which are good photographs accompanied by introductory text pieces, and sections and some details. A register of Swiss architects is included in the book. M. P. P.

POSTER DESIGN

Posters. By W. H. Allner. Reinhold Publishing Corporation (New York, N. Y.) 1952. 9¾ by 12 in. 119 pp., illus.

Their problems, approaches and solutions to contemporary poster design are analyzed in this book by fifty successful artists and designers.

The book presents suggestions on what might be done to arouse the interest of the public and still keep the landscape from completely disappearing behind billboards. In discussing varied opinions on revitalizing an ailing art form, the reconciling of esthetic principles with client demand and technical information, procedures and methods, the unique qualities of outdoor advertising, current trends and the inherent relationship and responsibility to architecture are explained.

Paul Rand reflects on the most common promotional clichés and the merits of the European Kiosk for display. Paul Lester Wiener urges advertisers and art-

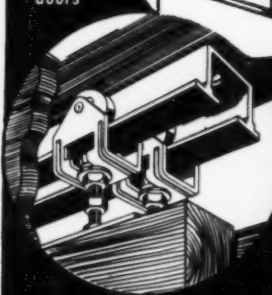
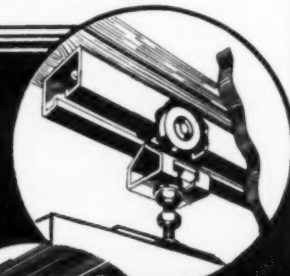
(Continued on page 362)

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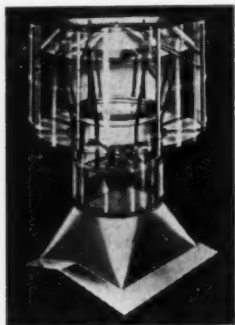
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REQUIRED READING

(Continued from page 358)

ists to plan with more civic integrity, while Leo Leonna takes action against passive mediocrity.

Competent illustration — photographs of the artist-contributors as well as reproductions of their work — with some color contributions make the book a fresh and stimulating experience. Biographical sketches of the artists are also included. Presented attractively in the long, low — increasingly popular — format, this is one of the most extensive collective works on poster advertising ever published. D. E.

GERMAN GLASS

Glas werstoff und Form. By Walter Dexel. Otto Maier, Ravensburg, Germany. 1950. 8¼ by 11¼ in. illus. (Text in German)

This, Walter Dexel's research work on German glass, was published as Volume I in a series of books — Material and Form — the second publication of the Institute for Craft and Industrial form in Braunschweig, Germany. Basically an historical text, the book places more emphasis on glass of the past than that of the present.

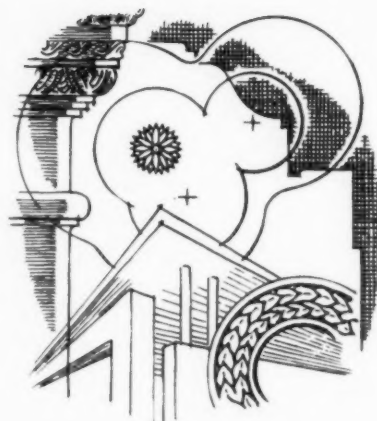
Beginning with Roman glass found in Germany in the second and third century, it traces the development of German glass from the fifth and sixth centuries to the twentieth, supplementing the text with old woodcuts and contemporary line drawings. One chapter is devoted to the coloring of glass; another to a thorough discussion of the techniques of glass blowing of different forms such as bottles, pitchers, bowls, vases and various drinking glasses. Although strong emphasis is placed on the historical, well-selected photographs give a good picture of contemporary German glass. M. P. P.

HISTORY AND TOWN PLANNING

Towns and Buildings. By Steen Eiler Rasmussen. Harvard University Press (Cambridge, Mass.), 1951. 6½ by 9½ in. 203 pp., illus., \$4.25.

In prose almost as ordered as some of the towns he talks about, Steen Eiler Rasmussen places town planning against a background of philosophy, government, art, the people and spirit of the times. How the ancient city of Peiking was laid out, and why; the long preoccupation of Europeans with the "vista"; the very different developments of London and Paris (as different as the people

(Continued on page 366)



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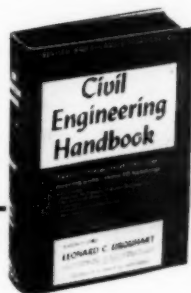
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REQUIRED READING

(Continued from page 362)

who live in those cities); the Dutch, the Danish, the Swedish, the Viennese contributions — these all find their way into Mr. Rasmussen's book. A tall order for a book of only 200 pages.

It is understandable, then, that in spite of the admirable illustrative material the book falls somewhat short of perfection. Space demands the assumption of a backlog of knowledge which the layman is not likely to possess, and parts of the book are surely too elementary for the professional.

There are many factors, however, which will make the book both helpful and interesting to the student and to the informed layman — the excellent illustrations already mentioned, all line drawings, are intelligently chosen to point up the text and, incidentally, to make a very handsome layout; the author's complete understanding of his subject; his humor and his enthusiasm — all these things contribute to a lively and informative book. G. A.

GERMAN FURNITURE

Möbel. By Karl Nothhelfer. Otto Maier, Ravensburg, Germany. 1950. 8¾ by 11¾ in. 208 pp., illus. (Text in German)

In 247 half tones and 225 detailed drawings, each accompanied by informative captions, Karl Nothhelfer covers contemporary furniture of Germany — a furniture striking for its strong feeling of traditional folk art quality.

Highly reminiscent of the craftsman-like Biedemeyer tradition, the furniture resembles the comfortable, much-lived-in appearance of early nineteenth century pieces. With strong emphasis on materials and a great range of wood — used both singularly and in combination — numerous deviations are achieved within the folk tradition. Even with frequent use of inlay, the substantial folk quality is retained.

Types of furniture for each room of the house are included. Upholstered chairs and sofas, rush seats, extension tables and built-in desks are all present; pieces, today almost forgotten in the United States — the hall hat rack and the commodious armoire — are in prominent display.

The photographs are well selected and, with the detail drawings, give a good feeling of the craftsmanship of the contemporary furniture Nothhelfer has selected as representative of that of Germany today. M. P. P.

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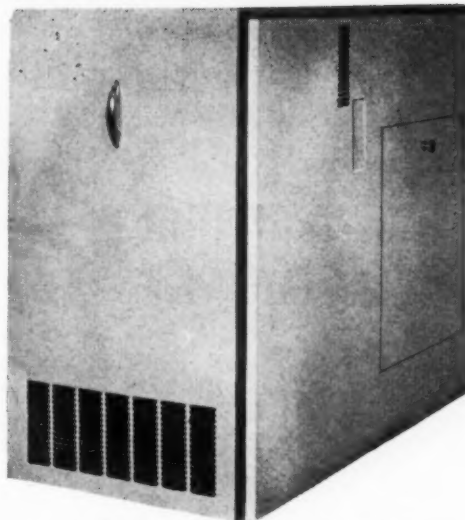
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CONTEMPORARY DESIGN IN ISRAEL

(Continued from page 158)

Not all new public buildings are to be found in Jerusalem and Tel Aviv, of course. The third largest city, Haifa, has a number of recent civic buildings, including the extension of the City Hall, the Court House (both built in the last years of the British Mandate), several new schools and the new Histadruth Building—headquarters of the Israel General Labor Federation.

Among the collective agricultural settlements (the *kibbutzim*), one of the most distinguished public structures is the Central High School at Mishmar Haemek, designed by Mr. Neufeld. It is a rare combination—and a successful one—of a functionally designed educational building, with all necessary facilities for indoor and outdoor study, and of a military stronghold for use in emergency (a use to which it already has been put).

In En Shemer, another agricultural settlement, located on the central coastal plain, the Technical Department of the Kibbutzim of Hashomer Hatzair (one of Israel's land pioneer movements) has designed a series of concrete buildings planned to serve the younger generation of the kibbutz farmers. Here Yaakov Geber, the Department's architect for En Shemer, showed me around nurseries, primary school buildings, junior and senior secondary schools. Student dormitories are attached to the various school units so that the children live, study and eat in their own quarters, and are independent of the facilities and activities of their elders.

Throughout Israel housing is the main emphasis at present. Generally speaking, residential design is progressive, and often ahead of the Western world—a fact obscured today by poor solutions and poor materials due to overwhelming economic difficulties.

The average visitor to Israel is impressed by the clean appearance, in line and color, of many of the newer houses. Terraces and balconies are generally considered essential—a tradition inherited from Europe and further developed under Arab and other Eastern influences. In some not at all luxurious residential buildings the terraces are actually larger than their adjoining living rooms.

(Continued on page 374)



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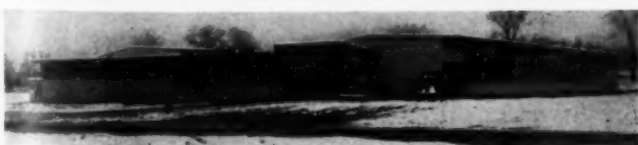
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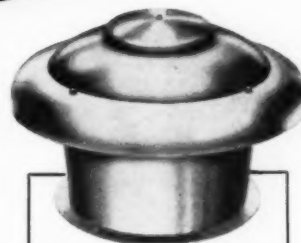
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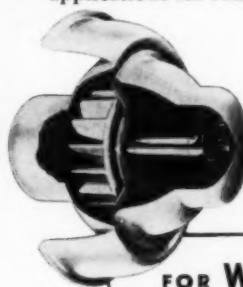
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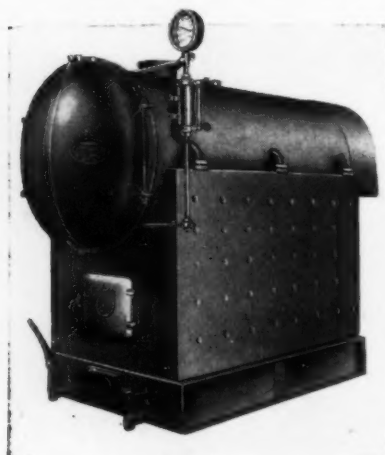
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CONTEMPORARY DESIGN IN ISRAEL

(Continued from page 370)

Surprising in view of Israel's climate is the lack of attention paid to orientation in residential design. Though site planning is rather advanced, not much has been done so far with sun control. Another criticism of residential design heard frequently is the monotony of appearance. This is due partly to the fact that many of the houses were built in the early years of "modern" architecture, and partly to the severe requirements of Israel's economy.

Criticism is often heard of the so-called "Tel Aviv architecture," which among other things means houses on stilts. Many Tel Aviv houses are built on concrete columns, with the ground level open and unoccupied except for small area taken by the stairs. The reason for this, apparently, is not only a desire for a larger garden area but also the result of a municipal zoning regulation which allows a limited number of occupied stories. By elevating the whole structure above the ground level, Israeli builders gain one story which is left unoccupied for the time being, but which may be walled in later by special permission. Whether good or bad, this is characteristic, and at least has enlarged the outdoor area of many a Tel Aviv house, to the enjoyment of the tenants.

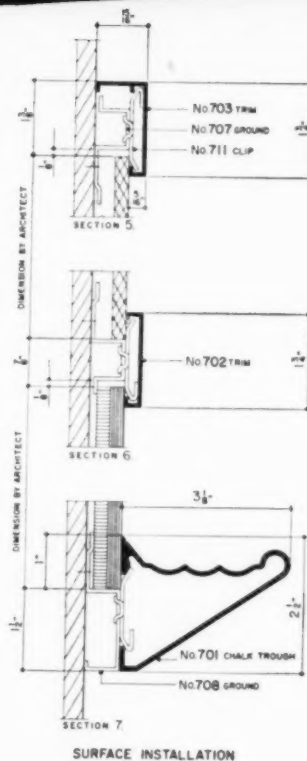
Not enough attention is paid as a rule to privacy, and too much is given to an attempted imitation of what is considered exotic Palestinian or Arab architecture. There are entirely too many arched door openings, decorative colonnades, etc., which do not by themselves really perpetuate the Eastern tradition.

It is especially unfortunate that the use of the country's native stone is impracticable at the moment, and that as a result concrete — recently of inferior quality because of the shortage of cement — is too widely used. Stone is expensive to quarry and to transport, and very few stone masons are available in Israel at present.

Rural architecture — mostly *kibbutz* buildings — is generally improving in design. The accent now, it seems, is on individualism rather than on the enthusiastic collective living of the earlier years. More smaller houses are being built, and an effort is being made to assign separate flats to families and

(Continued on page 378)

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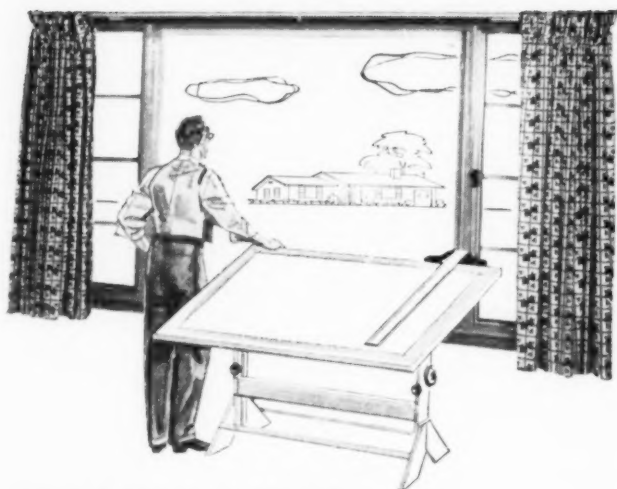
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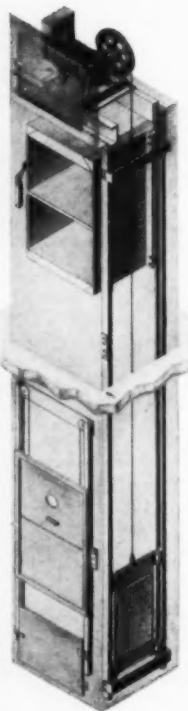
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CONTEMPORARY DESIGN IN ISRAEL

(Continued from page 374)

small groups of bachelors, according to seniority of service. Kibbutz residences do not require kitchens since cooking is communal, but the designers try to provide individual sanitary facilities. Sometimes certain almost amusing defects are to be seen. At Amir, in Upper Galilee, for instance, I saw still unfinished veterans' houses with bathrooms accessible from bedrooms only via open front terraces; no one was able to explain how this had happened.

Much of the mass housing constructed for new immigrants is a sad story; in certain immigrant camps the "houses" were built of sheet metal, bitterly cold in winter and impossibly hot in summer. Not all Israeli housing, however, is of such poor quality: even in the present time of crisis, many new houses are designed in excellent taste and with all provisions for comfortable family living and climatic protection. Such houses are undoubtedly extremely costly at present, but they do exist; I saw them in the Mt. Carmel section of Haifa, and again in Ramat Gan. And in the field of mass housing, the newly built Professional Officers Housing Settlement at Ramat Yosef provides apartments of from two to four rooms which are probably as comfortable as anything in the corresponding brackets in America.

Israeli architects are now living through a period of experimentation and basic research. A whole new generation of designers and planners is growing up, for the most part the product of the Haifa Institute of Technology. These young technicians, educated by prominent theoreticians mostly recruited from central Europe and influenced by the German Bauhaus movement drew considerable inspiration from the distinguished British modern design under the Mandate and — more recently — from the American and Scandinavian *avant garde*. Young architects and planners have organized cooperatives along the lines of those in England and the United States, and similar to the Walter Gropius group at Harvard. One of these is the Zevet Architectim, a "collaborative" recently set up in Haifa by graduates and junior instructors of the Institute of Technology — a diversified group of architects, civil en-

(Continued on page 382)



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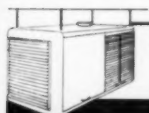
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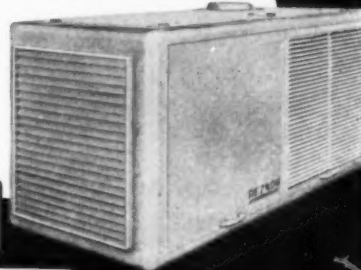
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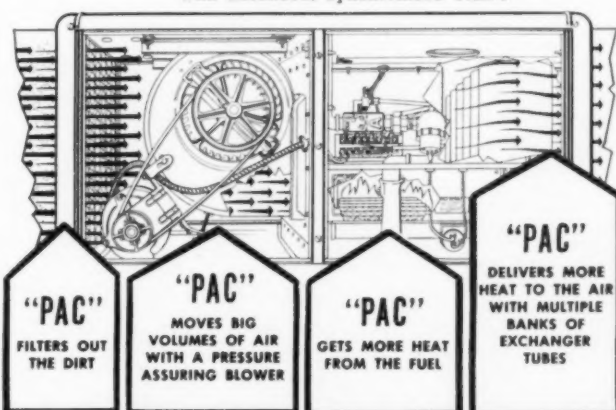
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CONTEMPORARY DESIGN IN ISRAEL

(Continued from page 378)

gineers, town planners, agriculturists, etc.

What is probably the basic ideological as well as the practical problem of modern Israel is the lack of a resolution—if not of an idea—of what constitutes a Jewish, or an Israeli expression in art generally and in the art of building particularly. During the last 20 or 30 years it has been evident that if a design is honest, clean-cut, functional, organic, free of senseless applied decoration, possessive of the innate beauty of materials used, and adhering to the several other principles of contemporary progressive thinking in the architectural field, it may still not fully express the life and culture of its creators and of the society which it is to serve. This is true of Israel today.

In the field of town planning, however, the country knows where it is going. Alexander Klein, head of the Planning and Housing Research at Haifa Institute, believes that anyone concerned with planning must have a thorough experience in general architecture. The government, he says, should be concerned with preparing the policy for a comprehensive development plan, in the sphere of economics and social relations, but this should be "a flexible program and nothing else." (Israeli government planners go further and say that the technical design must also be included in their domain.)

My only reservation is the lack of civic participation in non-governmental planning programs. Town planning comes from above and has no "grass roots." Joseph Neufeld some time ago called for the establishment of a national town planning research institute based on cooperation of every group in economics, social and political life in Israel, and functioning in even the smallest communities. A satisfactory architectural expression will not be easy to find in the fledgling state of Israel with its many cultural groups. I do not believe, however, that half-hearted attempts to utilize naive medieval Jewish decorative motifs or to assimilate the essentially misunderstood Arabic architectural elements can be the answer. Perhaps a new kind of prophet is needed in Israel—one who would proclaim new artistic values to bring forward the country's new-old soul.

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